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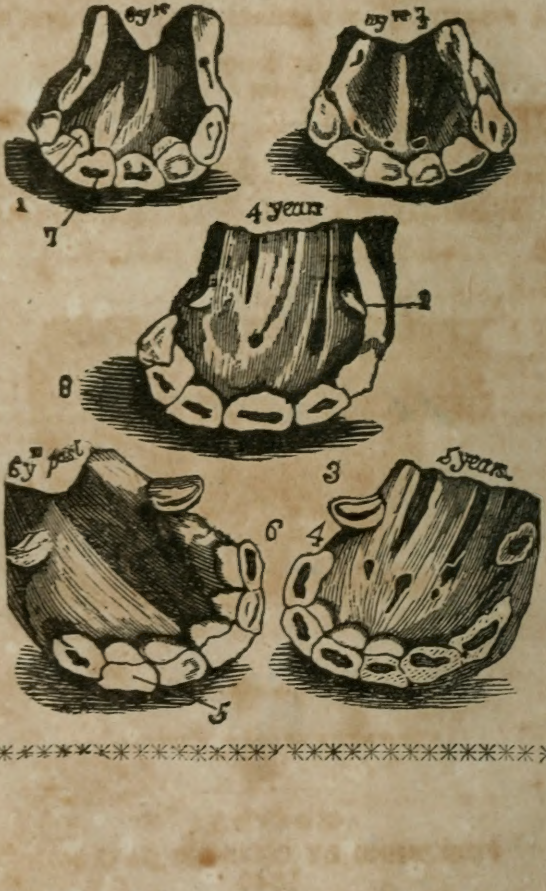
Jacob H. Landis's

Book. 1842.

H K Landis

No 33.

THE AGE OF A HORSE BY HIS TEETH.



THE

NEW ENGLAND FARRIER,

OR FARMERS'

RECEIPT BOOK;

A SELECTION OF VALUABLE RECEIPTS FOR THE
CURE OF DISEASES IN

HORSES, CATTLE, SHEEP & SWINE

WITH DIRECTIONS TO FARMERS FOR CHOOSING GOOD
STOCK.—ALSO, A VARIETY OF AGRICULTURAL
AND MISCELLANEOUS RECEIPTS.

With Copper-plate Embellishments.

TWENTY-SECOND EDITION.

BOSTON:
PUBLISHED BY CHARLES GAYLORD.
1840.

DISTRIC OF NEW-HAMPSHIRE—to wit:
District Clerk's Office.

L. S.

BE IT REMEMBERED, That on the thirtieth day of March A. D. 1831 and in the fifty-fifth year of the Independence of the United States of America, DAVID D. FISK & DANIEL CHASE of the said District, have deposited in this office the title of a book, the right whereof they claim as proprietors in the words following, viz. "The Farmers Receipt Book; and pocket Farrier. Being a choice selection of the most approved and valuable Recepits, designed for the benefit, of Farmers, and heads of families generally.

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CHARLES W. CUTTER,
Clerk of the District Court of the United States, for the District of New-Hampshire.

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Attest, CHARLES W. CUTTER, *Clerk.*

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Contents.

HORSES.

Signs of a good horse—how to choose one, 9
How to know a horse's age, 14
Remedy for grubs or bots, 17
  Another 19
  Another, 19
Dr. Morgan's remedy, 19
Dr. Loomis' remedy, 19
To preserve a horse against botts 21
Another method, 21
  Another, 21
Physic for a horse, 21
To restore a lost appetite, 22
Cure for cough in horses, 22
Cure for sore backs, 22
Remedy for heaves, 23
Cure for sore tongue, 23
Founder in horses 33
Cure for spavin 24
How to save horses from barns on fire, 24
To prevent horses from being teased with flies, 25
Glanders and farcy, 25
To secure horses from flies and other insects, 28
The yellows, or jaundice, 28
  Another, 29
Strain of the coffin joint, 29
Strain of the shoulder, 30
Cure for corns, 31
For hurts and bruises, in the withers, 33
Lotion for blows, bruises and sprains, 33
Horse ointment, 34
Horse medicine, 34
Remedy for the blind staggers, 34
Cure for slavers, 35
Inflammation or blindness of eyes, 35
To cure gripes, 36
Draughts for the gripes, 38
White's ball for gripes, 39
Remedy for anticors, or sore throat, 39

Remedy for lameness, 42
To cure thrush in horse's feet 43
Shoeing in winter, 43
To prevent feet balling with snow, 43
Ointment for the mange, 43
Linement for the mange, 44
Paste to stop bleeding, 44
Ointment for scratched heels, 45
For greasy heels, 45
Astringent embrocations for strains, 46
Mixture for canker in the mouth, 46
Canker and wounds in the mouth, 46
To cure the strangles, or horse-ail, 47
Vives, 48
To cure wind galls, 49
Regimen for wind broken horses, 50
Remedy for sand cracks, 51
String-halt, 52
Mallanders, 53
Scratches, or sallanders, 53
To relieve a hide-bound horse, 53
Yowel, 55
Rules for bleeding, 56
Grease, 56
Ring-bone, 58
Lampers, or lampas, 59
Poll Evil, 60
Remedies for spavins, 61
Low fever, 62
How to distinguish gripes from inflammation of the bowels 62
Treatment of wounds, 63
Mode of giving a ball, 64
Mode of giving a drink, 65
Fomentations, 65
Poultices, 65
Setons, 67
Rowels, 67
Mixture for diarhæa, or scouring, 68
Paste for thrush, or foot-rot, 68
Wash for cracks, wounds in the heel, &c. 68
Clyster for gripes, 68
Chemic cough for balls 68
Diuretic balls, 68
Urine drink, 69
For strains, 69
For the eyes, 69
Hoof liquid, 69

CONTENTS.

Liquid Purge, 69
Scalding mixture for poll evil, 69
For stoppings, 69
Ointment for Healing 69
Remarks, 69
Horse ail 72

CATTLE.

General remark 74
Hoven, 79
Lameness, 80 81
Inflammation, 82
Quartre evil, 82
Black Quartre, 82
Spud, 82
Murrain, or pest, 84
Catarrh, or Colds, 87
Epidemical cold 87
Distemper, 87
Peripneumony, 90
Inflammation of the lungs 90
Inflammation of the stomach, 93
    Bowels, 94
    Liver, 95
    Kidneys, 96
    Brain 97
Fog sickness, hoven, or blown, 98
Gripes or flatulent colic, 104
Purging drink 106
Stomachic drink, 107
Indigestion, or loss of the cud, 107
Warm laxative, 108
Tonic Drench, 108
Jaundice, or yellows, 109
Diarrhæa, looseness, Slimy flux, or scouring rot, 110
First drink for scouring, 111
Astringent drink, 112
Red water, or bloody urine, 114
Foul in the foot, or hoof ail, 115
On the management of cows, when they are near the time of calving, 122
Inflammation and swelling of the udder, 124
Liniment 124
Wounds of Cattle, 126
Grain sick, 129
Strains and bruises, 130
Warts or horny excrescences, 131
Swellings on the joints and bones, 131

Soft swellings, 134
Loss of joint oil, or Synovia. 135
Mange, 137
Horn distemper, 137
Tail sickness, 138
Ulcers, 139

ON SHEEP.

For the foot rot in sheep, 141
Prevention and cure of the foot rot in sheep, 142
To prevent Sheep from catching cold after being shorn 143
To cure the scab in sheep 143
To prevent the scab 144
To destroy maggots in sheep 144
Cure for the scab in sheep 145
To cure the water in the heads of sheep 147
To prevent the sturdy or water in the heads of sheep 151
Practice of the Spanish Shepherds 153
Pelt-rot 153
Ticks, 154
Staggers, 154
Colds, 154
Hove, 155
Pining, 155

ON SWINE.

Of the diseases of swine, 158
To cure the measles in swine, 159
Rupture in swine 159
For a fever, 159
For the swine pox, 160
For catarrhs, 160
Of drenches, 160
Issues, 160
Fattening of swine, 161
Of curing pork and bacon, 165

AGRICULTURAL & MISCELLANEOUS RECEIPTS.

Of gardens, 168
To destroy insects, 170
Canker-worm, 171
Curculia, 173
Caterpillars, 175
Grubs, 175
Top or spindle-worm, 175
Black worms, 175
Red worms, 176
Palmer worms, 176

Timber worms, 176
Hessian-fly, 177
Maggots, 177
Yellow-striped bug, 177
Turnip-fly, 178
Garden flea, 178
Lice, 178
Weavel, 178
Grasshoppers, 179
To manage a dairy, 180
Directions to the cow feeder, 180
" " " dairy maid, 181
To choose a milch cow, 181
To determine the economy of a cow, 182
To manage young chickens, 183
To fatten poultry, 184
Cure of dropsy in the crops of young turkeys 185
Grafting, 187
Management of bees, 190
To unite swarms and reinforce stocks, 191
To feed bees, 193
To manage honey, 193
To take honey without destroying the bees 194
To manage bees generally, 195
Preserving meats, 198
A method of preserving cream, 200
To prevent bottled cider from bursting, 200
Extirpating Rats and Mice, 201
To make a pickle or brine for beef, 201
Manner of preserving Eggs perfectly fresh for months 202
To preserve hams or other smoked meat through the summer, 202
Preservation of Butter, 203
To cultivate hemp, The soil, 203
To prepare the ground, 203
Quantity of seed &c. 204
Method of sowing, 205
After culture, 206
Process of grassing hemp, 207
Fruit Trees, 208
How to produce the best of fruit, 210
Recipe for making good Yellow Butter, 210
Art of dressing Flax so as to resemble Silk as practiced in Germany, 211
Mode of whitening Straw, 212
Preserved Strawberries, 212
Hop Beer, 212
Rules to be observed regarding the improvement of waste-lands, 213

THE FARMER'S

RECEIPT BOOK.

OF HORSES

Signs of a good Horse—how to choose one.

The principal signs of a good horse are these the eyes set apart in the head, and large and bright; the quirl high in the forehead; one or two in the neck is a good sign; the neck well set on high; the shoulder blades pretty high, and converging to a point; the breast full and large, and so also behind; the body round, for flat bodied, or slab sided horses are weak natured; the dock stiff going wide behind, for if the gambols knock together, it shows that the horse is feeble; chewing the bit when provoked, is a good sign.

The neck ought to be short and light. The head cannot be too small, nor the neck too short and light. The reason is obvious. The head and neck of the horse are placed wholly anterior to his points of support. The shorter the neck, therefore, and the lighter the head, the less likely is the horse to stumble and fall.

A horse with a long neck is not only more likely to fall, but his wind cannot be so good. The longer the neck, the more difficult is the access of air to the lungs. A horse, therefore, with a long neck, will have short wind; and is only calculated for slow draught. He will not answer for the turf. No horse can run well with a long neck.

The carcass of a horse ought to be a subject of particular attention. This cannot be too circular. A cylinder gives the greatest possible capacity. A horse, therefore, with a round chest, has more room for the expansion of his lungs than a horse with a chest otherwise formed. His wind must therefore be better; besides he fats much easier; he requires less food. A horse with a round chest will keep fat upon almost any thing, whereas it is almost impossible to fat a horse with a narrow or flat chest. A horse with a thin narrow chest cannot bear heat, has bad wind, is always lean, weak and tender.

The spine, or back, which extends from the fore to the hind quarters, cannot be too short for strength A short, hump-back is indicative of great strength, especially in carrying weights. We arch bridges for the purpose of adding to their strength, and a horse's back may be compared to a bridge, and the four legs the four pillars of support. The shorter the arch, the greater weight it will support, and for the same reason, a horse with a short, curved or hump back (other things being equal) will carry the greatest burthen.

Although a short back is indicative of strength, it is not of speed and action. A long back must obviously give greater room for action. The hare and weasel have, in proportion to their size, extremely long backs; and "to run like a March hare," is proverbial. A long back, however, must be a weak back, and unable to support heavy weights. In choosing a horse, therefore, for common use, it will be best that he should have a back of a medium length; neither too long nor too short.

The hind quarters of a horse ought to be long

I mean by hind quarters, the parts from the haunches backwards.

The hock or gambrel ought to be long and broad The os calcis, or heel bone of this joint, corresponds to the same bone in the human subject. The longer this bone is, and the further it projects backwards, by so much the greater length of lever, do the muscles act, which are attached to it. It must be obvious, therefore, that this is a very important point in a horse, and one that ought never to be overlooked. It is impossible to have a good horse, without a good hock. A horse may be a good animal with bad fore legs, but he never can be with a bad hock. The fore legs merely support the body—the hind legs propel it forward. The horse puts himself in motion and performs all his functions *solely* by the action of the muscles attached to the os calcis. The further this bone projects backward the longer is the lever by which the muscles act, and the greater will be their propelling power.

The legs of a horse ought to be flat—the bones small, and the muscles large. Bones do not give strength, and when the bones of the leg are sufficiently large to support the weight of the animal, all over this is superfluous, and worse than superfluous; it is a dead weight upon his motions. Bones are mere levers, and the skeleton a mere frame, on which the muscles act. Bones are, in themselves, inert substances. Muscles give strength. All the motions of the animal are performed by his muscles. When the bones are so placed with regard to each other, as to give a long leverage to the muscles, such muscles act with increased power; and in this consists, in a great degree, the excellency in the mechanism of the horse

The above are the most prominent marks or points, as they are called, of a good horse. In the purchase of a horse, however, many other circumstances are to be taken into consideration. It is of immense consequence that he should have perfect feet. It is obvious, that a horse with bad feet, however good his points may be, must be rather a useless animal. A horse with bad feet, is always an unsafe horse; he will always trip, and is very liable to fall. Any tenderness or uneasiness about a horse's feet, renders him unsafe. Even a shoe, that does not set easy, will surely cause a horse to trip.

When a horse is offered for sale, I would advise the purchaser to ask one question, viz: Is he in all respects perfectly sound? Should a cheat be practised on you, an action would lie against the seller, and damages could be recoverable; but be your own judge, not permitting any declaration that may be made by the seller, to alter your opinion of form, age, condition, movements, action, &c. As the eyes of a horse are the most important organ, first let him undergo a strict examination, [in open day light;] ascertain his age, examine his figure and action, guarding yourself against being too much pleased or fascinated with the appearance of a new object; view his feet and legs; large ridges on the hoofs,or very flat feet, discover a horse to be subject to founder: large gouty legs, with enlarged tendons, indicate strains and other injuries. Examine his hind legs with great attention, just below the hock, and inside the hind knee: if there is any unnatural prominence, or knot, unlike the other knee, it wears the appearance of a spavin, which renders a horse of but little value. Splint, which appears on the inside of the fore legs, and wind-galls, upon the ancles, are unpleasant to the eye, but seldom produce serious lameness; they furnish plain proof that a horse has been serviceable, and are very seldom productive of any other injury than stiffness, as he advances in years. Ride yourself, for the purpose of trying his gaits and qualities—as a rider, accustomed to a horse by private signs, such as manner of riding, bearing on the bit, leaning forward or backward, holding the heels close to his sides, &c., can make a dull horse appear gay and spirited, a wild horse gentle, a stumbler clear footed; one that is blind appear to see, and a starting horse free from that great objection, &c. Before mounting him, examine his knees, to discover if they are skinned, the hair off, or scarred; those are strong symptoms of his politeness to a fault. Ride with your bridle loose over any uneven ground: if he is in the habit of stumbling, he will very readily inform you—then approach some object offensive to the sight: if he appears much alarmed, stopping suddenly, and attempt to turn round, paying but little respect to the bearing of the bridle, you may judge he has long been in the habit of that bad practice. Ride him in all his different gaits, to ascertain if they are smooth, easy, and agreeable; move him about a mile, out and back, in fully half speed; frequently stopping him suddenly to try his wind, also if he is spavined. If his wind has been injured, he will blow unnaturally; making a loud wheezing noise, with great difficulty of breathing. While warm ride him in cold water above the belly; after which let him cool fifteen or twenty minutes, and if he is spavined, and has received temporary relief by applications of any kind, the disease will make its appearance so plain, that you will discover evident marks of lameness. The spavin is often relieved for a time; and in a few instances, has been permanently cured by blistering, bathing with double distilled spirits, &c. The brisk exercise, &c., is intended to bring on a return of its effects, in case the animal should have had temporary relief from that distressing disease.

When a horse is rode by any person for you to judge of his gaits, you should have him moved towards you, from you, and finally by you; as you may have the opportunity of discovering if there is any turning in and out about his knees and ancles, before or behind, which is very objectionable. A well shaped horse will track as true, or his legs will follow each other in as direct a line, as the wheels of a well constructed carriage. For him to be considered a good riding horse, he should move with ease to himself, and pass over the ground with great rapidity. Hard steps, short going, and great apparent labour, is offensive to the sight, unpleasant to the rider, and fatiguing to the horse himself.

How to know a Horse's Age.

The age of a horse, it is sufficiently well known, is only determinable with precision by his teeth; and that rule fails after a certain period, and is sometimes equivocal and uncertain, even within that period. A horse has forty teeth; namely, twenty-four double teeth or grinders, four tushes, or single teeth, and twelve front teeth, or gatherers. Mares have no tushes in general. The mark, which discovers the age, is to be found in the front teeth, next the tushes. In a few weeks, with some, the foal's twelve fore teeth begin to shoot; these are short, round, white, and easily distinguishable from the adult or horse's teeth, with which they come afterwards to be mixed. At some period, between two and three years old, the colt changes his teeth; that is to say, he sheds the four middle fore teeth, two above and two below, which are sometime after replaced with horse's teeth. After three years old, two others are changed, one on each side the former; he has then eight colt's and four horse's teeth. After four years old, he cuts four new teeth, one on each side those last replaced, and has at that age, eight horse's and four foal's teeth. These last new teeth are slow growers, compared with the preceding; they are the corner teeth, next the tushes, are called pincers, and are those which bear the mark: this mark consists in the tooth being hollow, and in the cavity bearing a black spot, resembling the eye of a bean. The tushes may then be felt. At four years and a half old, these mark teeth are just visible above the gum, and the cavity is very conspicuous. At five years old, the horse has shed his remaining four colt's teeth, and his tushes appear. At six, his tushes are up, and appear white, small, and sharp, near about which is observable a small circle of young growing flesh; the horse's mouth is now complete, and the black mark has arrived at, or very near the upper extremity of the corner teeth. At seven, the two middle teeth fill up. Between the seventh and eighth year, all the teeth are filled up, the black mark hath vanished, and the horse is then said to be aged, and his mouth full.

From that time forward the age of the horse can only be guessed at from certain indications; but these guesses are usually made with considerable accuracy by experienced people. If his teeth shut close, and meet even, are tolerably white, not over long, and his gums appear plump, you may conclude he is not yet nine years old. At that age, and as he advances, his teeth become yellow and foul and appear to lengthen, from the shrinking and receding of the gums. The tushes are blunt at nine; but at ten years old the cavity or channel on the inside in the upper tushes, until that period to be felt by the finger, are entirely filled up. At eleven, the teeth will be very long, black, and foul, but will generally meet even; at twelve, his upper-jaw teeth will overhang the nether ; at thirteen and upwards, his tushes will be either worn to the stumps, or long, black, and foul, like those of an old boar. Beside those exhibited by the mouth, nature ever furnishes a variety of signals, denoting the approach of old age and decay, throughout the bodies of all animals. After a horse has passed his prime, a hollowness of his temples will be perceived; his muscles will be continually losing something of their plumpness; and his hair, that gloss and burnish which is the characteristic of youth and prime, will look dead, faded, or entirely lose its color in various parts. In proportion to the excess of these appearances, will be the horse's age.

The following are among the devices practised by a set of unfeeling rascals, who have no other rule of conduct than their supposed interest to counterfeit the marks of age in horses. At four years old they will frequently knock out the remaining colt's teeth, in order to make the horse appear five; but you will be convinced of the fraud by the non-appearance of the tushes; and if it be a mare, by a shortness and smallness of the corner teeth and indeed of the teeth in general. To give an old horse the mark, is termed, to bishop him; from the name of a noted operator. They burn a hole in each of the corner teeth, and make the shell fine and thin, with some iron instrument, scraping all the teeth to make them white; sometimes they even file them all down short and even. To this they add another operation; they pierce the skin over the hollows of the eye, and blow it up with a quill: but such manœuvres can deceive only the inexperienced, and in case of dispute would be detected in an instant.

Remedy for Grubs or Botts in Horses.

All the symptoms of colic and grubs in horses are the same; and unless a horse swells, no one can discern the difference. It would be well, therefore, to commence for the grubs, as the more fatal and dangerous disease—and to which, the remedy here recommended, is an alleviation, if not a cure, for the colic, and in a slight attack would relieve immediately. So soon as a horse shows symptoms of uneasiness, such as groaning, looking back towards his sides, laying down, &c., he should be bled in the neck; which being caught in bottles, should be immediately poured down the horse. The bottles, while held to receive the blood, may be immersed in hot water, to prevent coagulation, and to keep it in a warm and liquid state; the horse should be made to swallow from three quarts to a gallon. I never yet knew this fail to give relief in five minutes; this is asserted on an experience of thirty years.

Its operation is thus accounted for: the grubs, from some cause, having abandoned their usual food, seize upon the stomach, and when the warm blood thus thrown in reaches them, they immediately loose their hold to feed on it; so that instant relief follows. The bleeding has a tendency to allay any fever caused by the attack, and if a sufficient quantity is given, it will act as a purgative and carry them off.

It is not an uncommon thing for grubs to attack a horse soon after he is relieved from the colic.—They are disturbed either by the disease or the means used to cure. When once roused to action, they never fail to seize on the most vital and dangerous part. It would therefore be well, in all cases of either colic or grubs, to give an active purge after the horse is relieved from pain; as when loose, they are easily carried off with the medicine, but when attached to the stomach, nothing that would leave life in the horse could force them to quit their hold. This may be demonstrated by attempting to detach them from the stomach of a dead horse. The grub is surely produced from the nit; is frequently seen on horses, which only requires heat and moisture to hatch: thus, if slightly moistened, and the breath blown on it with the hand partly closed, it will in a few moments produce a most active little worm; which, if he gets in the mouth, is as well calculated to travel down the throat, as he is afterwards to produce the most fatal effects.

A few weeks feeding on green oats, or corn cut up, stalk, ear and all, will generally carry off most of the grubs that may be in a horse; at least they will thus get rid of large quantities, which must surely lessen the danger. It is vain to endeavor to destroy them; what would kill a horse in fifteen minutes, would scarcely affect them, or if it would, the remedy would be as bad as the disease.

Another.

In the morning, upon an empty stomach, let two pounds of molasses be dissolved in three pints of new milk, and given;—prevent the horse from taking any food for nearly two hours, then add an ounce and a half of laudanum to about three half pints of warm water—after it is given let him be walked about for nearly an hour and a half, then let a dose of strong physic be given, and worked off in the usual way.

Another.

1. Half a gallon of sweetened milk, and in an hour after, an ounce of calomel. 2. An ounce of calomel. 3. A pint of tar. Each has been recommended as successful. Dr. Green, of Massachusetts, says the irritation of the botts produces inflammation, and renders a large bleeding from the neck proper.

Dr. Morgan's (of N. Jersey) remedy for the Botts.

Take a table spoonful of unslaked lime, and let it be given with the feed of the horse, at night and morning, regularly, for three, four, or five days, and it will completely expel the botts.

Dr. Loomis' (of North Carolina) remedy for Botts

Make a drench, composed of half a pint of new milk, a gill of molasses, an ounce of copperas, two spoonfuls of common salt, and half a pint of warm water. Give this to the horse once or twice a day for a few days, and it will completely expel .he botts.

Some recommend spirits of turpentine given as a drench, and others advise to apply that substance to the breast and stomach of a horse. Willich's Encyclopedia says, botts may be cured by giving the horse a spoonful of savin, cut small, once or twice a day, in oats or bran moistened, to which may be added three or four cloves of garlic. Purges of aloes and jalap likewise to be given at intervals.

Botts are produced from the eggs deposited by a fly on the hairs of horses. The fly is about the size of the honey-bee, and the head and neck not much unlike it. It flies with its head and body erect, and perpendicular to the horizon, while its tail forms a sharp angle with its body, being bent towards the horse, so that it touches the hair of his legs or belly, (which are parts at which the insect generally aims) only with the extremity of its tail, and in this way it will fly about him for an hour, discharging a great number of eggs, which adhere to the ends of the hair. The eggs of the bott-fly are introduced into the stomach of the horse by his licking and biting the part on which the eggs are deposited.

As the means of guarding against botts, something may be accomplished by destroying the parent insect, while buzzing about the horse. The nits or eggs should be scraped off, with a sharp knife as fast as they appear.

To preserve a Horse against Botts.

Take of bees' wax, mutton tallow, and sugar each 8 ounces, put it into one quart of warm milk, and heat it until it all melts and mixes; then put the whole into a bottle, and just before the wax, &c., begins to harden, give it to the horse. Two or three hours afterward give him physic.

Another method

Give a horse occasionally a half pint of hard wood ashes mixed in his grain and sprinkled, or given in his drink. This is an excellent remedy.

Another

Give your horse salt freely—as that will, in nine cases out of ten, preserve him from the botts. If he is attacked by them, give him a quart of warm fish brine; and if the case be a bad one, repeat the dose once an hour. For this purpose, *save your fish brine.*

Physic for a Horse.

A strong decoction of the herb called motherwort, which is very common. Let it be mixed with Indian meal, or given through a bottle, if the horse refuse the meal when mixed with the decoction This is an excellent remedy against worms.

To cure Colic in Horses.

Give your horse linseed oil, administered in the quantity of half a pint to a pint, according to the violence of the symptoms.

Another.

Pound into powder three or four old tobacco pipes, and put it into three pints of water—boil it down to about half, and give it to the horse cool. For this use, then, *lay up your old pipes.*

To restore a lost Appetite.

Horses lose their appetite from various causes, viz: excessive fatigue, want of a change in food, dirty fodder, mouldy corn or a dirty manger, &c., &c., but most frequently by the approach of some disease. So soon as you discover a horse has lost his appetite, observe the following treatment, viz: Take from the neck vein half a gallon of blood: take of assafœtida a quarter of an ounce, salt one table spoonful, sassafras tea one quart—mix and give them as a drench. On the second day, take of glauber salts one pound, warm water one quart, after dissolving the salt, give it as a drench, and in two or three days the appetite will be restored, unless the animal is laboring under some disease, which may be ascertained by the symptoms.

Cure for Cough in Horses.

Half pound of nitre, quarter pound of crocus metallorum, (black regulus of antimony,) two ounces of antimony; mix well in a mortar, and make it up into doses of one ounce each. Give the horse one dose in a cold mash mixed, every night in mild weather, for three nights; then omit it for a week. If he does not get better of his cough, repeat it

Care is necessary that the horse should not be exposed while warm, to stand in a cold wind: otherwise exercise him gently, and heat him as usual

Cure for Sore Backs.

A small quantity of white lead moistened with milk. Sweet oil has been sometimes used as a substitute for milk.

Remedy for Heaves in Horses

Take one pound and a half of good ginger, for a horse. Give two table spoonfuls a day—one in the morning and the other in the evening, mixt with wheat bran. This receipt has been selling at $5 to the eastward, where the efficacy of the above medicine has been proved in the cure of several cases of obstinate heaves.

Cure for Sore Tongues.

By making use of a little tar, once a day, rubbed on the tongue of the sound horses with a mop, is an effectual preventive; for the diseased horse, take a common table spoonful of spirits of turpentine and pour it on the tongue, as far down as practicable, then with a mop well saturated with the spirits of turpentine, mop every part of the tongue; after this make use of the tar as in the way above mentioned *as a preventive*, this done once or twice a day, for two or three days, has never failed making a cure.

Founder in Horses.

A horse rode until heated and fatigued, and fed too plentifully while warm and hungry,—and swallowing his food too greedily, that he may lie down and rest his wearied limbs;—and the stable being wet or damp, and the horse in a compious sweat, are reasons the best that can be given, for the formation of the disease.

Instead of rising up refreshed, the poor animal is stiff and useless. If he had got leave to cool perfectly, and been fed sparingly, he would have escaped *this* sore complaint.

The cure is a lump of alum the size of a walnut, reduced to powder and dissolved in warm water; the horse must be drenched with this liquid, which in a short time will throw him into profuse perspiration, and he will be able to pursue his journey the next day, and if not badly foundered, in a few hours.

Cure for the Spavin.

Take one pound of angle worms, fry them well in a pound of butter, and after it is cool add one gill of spirits of turpentine.

Take one oz. Origanum Oil, (sold at druggists',) which mix in one gill of spirits of turpentine.

Every morning, rub the spavin with the angle worm mixture, heated in a shovel over the fire.

Every evening rub the spavin with Origanum Oil mixture. By the time these are used, you will begin to see the horse improve.

During the operation, it will often appear to make him worse; but this must not be regarded as injurious. It does not remove the lump, but the disease will be extirpated.

How to save Horses from barns on fire.

Horses are frequently burnt to death when barns or stables are on fire, owing to the impossibility of leading or driving them out of the building, while their eyes are dazzled by the blaze. But we are assured that by simply covering their eyes with a bag, a coat, or a pocket handkerchief, they may be led out of danger without trouble or difficulty.

To prevent Horses being teazed with flies.

Take two or three small handfuls of walnut leaves, upon which pour two or three pints of soft and cold water—let it infuse one night, and let it boil for a quarter of an hour—when cold it will be fit for use. No more is required than to moisten a sponge, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz: between and upon the ears, the flank, &c.

Glanders and Farcy.

The glanders is the opprobrium medicorum, for hitherto no attempts have succeeded in the cure of more than a few cases. By some peculiar anomaly in the constitution of the horse, although conclusive proofs are not wanting that this and farcy are modifications of one disease, and can each generate the other; yet the one is incurable, while the other is cured every day.

The marks of glanders are a discharge of purulent matter from ulcers situated in one or both nostrils, more often from the left than the right. This discharge soon becomes glairy, thick and white-of-egg-like: it afterwards shows bloody streaks, and is fœtid. The glands of the jaw of the affected side, called the kernels, swell from an absorption of the virus or poison, and as they exist or do not exist, or as they adhere to the bone or are detached from it, so some prognosis is vainly attempted by farriers, with regard to the disease; for in some few cases these glands are not at all affected, and in a great many they are not bound down by the affection to the jaw. As there are many diseases which excite a secretion of matter from the nose, and which is kept up a considerable time; so it is not always easy to detect glanders in its early stages. Strangles and violent colds keep up a discharge from the nostrils for weeks sometimes. In such cases, a criterion may be drawn from the existence of ulceration within the nose, whenever the disease has become confirmed. These glanderous chancres are to be seen on opening the nostril a little way up the cavity, sometimes immediately opposed to the opening of the nostril; but a solitary chancre should not determine the judgment. The health often continues good, and sometimes the condition also, until hectic takes place from absorption, and the lungs participate, when death soon closes the scene.

The following method is recommended as the best.

Dissolve one pound of glauber salts in warm water, set it in a bucket in his manger, and he will drink it; take half a gallon of blood from his neck vein; give a mash of two quarts of wheat bran scalded with sassafras tea, after which offer him lukewarm water to drink, and do not suffer him to drink any other kind for that day, next morning take the same quantity of blood as before, give a mash as before, with the addition of half an ounce of salt petre dissolved in it, let his food be wet, and of a weak kind—a run at grass after the first two days would be of service.

The *farcy* is a disease more easily cured than the glanders, of which our daily experience convinces us; farcy, or farcin, attacks under distinct forms, one of which affects the lymphatics of the skin, and is called the bud or button farcy: the other is principally confined to the hind legs, which it affects by large indurations, attended with heat and tenderness. A mere dropsical accumulation of water in the legs sometimes receives the name of water farcy; but this has no connection whatover with the true disease in question: farcy is very contagious, and is gained from either the matter of farcy or from that of glanders.

Treatment of farcy.—The distended lymphatics or buds may often be traced to one sore, which was the originally inoculated part, and in these cases the destruction of this sore, and that of all the farcied buds, will frequently at once cure the disease, which is here purely local. But when the disease has proceeded farther, the virus must be destroyed through the medium of the stomach; although even in these cases, the cure is rendered more speedy and certain, destroying all the diseased buds, by caustic or by cautery. Perhaps no mode is better than the dividing them with a sharp firing iron; or if deeper seated, by opening each with a lancet, and touching the inner surface with *lapis infernalis.* The various mineral acids may any of them be tried as internal remedies with confidence; never losing sight of the necessity of watching their effects narrowly, and as soon as any derangement of the health appears, to desist from their use; oxymuriate of quicksilver (corrosive sublimate) may be given in daily doses of fifteen grains; oxide of arsenic may also be given in similar doses. The subacetate of copper (verdigris) may also be tried, often with great advantage, in doses of a drachm daily. It remains to say, that whatever treatment is pursued will be rendered doubly efficacious if green fodder be procured, and the horse be fed wholly on it; provided the bowels will bear such food; but if the medicines gripe, by being joined with green food, add to the diet bean-meal. When green meat cannot be procured, carrots usually can; and when they cannot, still potatos may be boiled, or the corn may be speared or malted. As a proof of the beneficial effects of green meat, a horse, so bad with farcy as to be entirely despaired of, was drawn into a field of tares, and nothing more was done to him, nor further notice taken of him, although so ill as to be unable to rise from the ground when drawn there. By the time he had eaten all the tares within his reach, he was enabled to struggle to more; finally he rose to extend his search, and perfectly recovered.

A certain method of securing Horses from Flies and other Insects.

It consists in rubbing them every morning with walnut leaves.

The "Yellows" or Jaundice.

This disease is always attended with a violent palpitation of the heart; a drooping of the head and sleepiness of the eyes; a dusky yellowness of the eyes, mouth and tongue; the hair of the mane and tail becomes loose.

Remedy.—One quarter ounce gamboge; one half ounce salt petre; one ounce alum; one ounce copperas. Pulverise all these ingredients, and put the whole into a bottle with four gills of cold water; stop it tight, shake it well, and let it stand one night; it is then fit for use.

Give one table spoonful of the mixture three mornings running, then omitting three mornings, repeat the dose as before, and so on until the horse has taken nine doses. A *rowel* is to be made in the breast as soon as the use of the medicine commences, turning it once a day.

Working the horse or bleeding him within three months is forbidden.

Another

Take of walnut tree bark, red oak bark, sassafras roots, spice wood twigs, young pine tops, the running black brier roots, of each as much as can be grasped in both hands, boil in four gallons of water to two, then add half a pint of soft soap, dose a quart of this decoction morning and evening, adding to each dose a teaspoonful of copperas. The horse should be stabled at night. This receipt is communicated by one of the principal planters of Wake, who assures us that he has repeatedly witnessed its efficacy.

Strain of the Coffin-Joint.

Thin hoof and sole are most liable to this injury. Almost every one imagines the lameness to reside higher up, as in the shoulder or the hip joint. Great heat and tenderness of the part soon come on; the latter symptom may be ascertained by striking the hoof in front with a key or small stone, when the animal will flinch considerably more than when the corresponding foot is struck in the same manner. When the horse would stand at ease, he usually does so with his toe pointing forwards, so as to keep the pastern in a straight line with the leg, and thereby take off the tension or pressure upon the back sinew and ligaments: the inflammation shortly after reaches the upper part of the sinew, as may be ascertained by passing the hand down over it, when the patient flinches.

Cure.—Blistering at the coronet and fetlock repeatedly will reduce the inflammation within. A poultice covering the whole foot also tends to the same effect, which will be further assisted by paring the sole, if it be not already too thin: reduce the frog also, and do the same for the corresponding foot.

Strain of the Shoulder

Horses that are weak before, and low footed, with an unsteady tread, are most liable to contract this disorder, which consists in a twist or sprain of the strong muscles that attach the shoulder to the body.

Taking up the foot and bending the limb will further prove the existence of strain in the shoulder, if the animal evince pain; whereas, if it lie in the foot, and not in the shoulder, the lame leg can be moved as supple as the sound one. The difficulty of ascertaining the real seat of lameness is sometimes so very great, being entirely invisible, as to put us upon all sorts of expedients to find out the real seat of the disorder. For this purpose, hold up his head high, and after comparing and finding no difference in the shape of his two shoulders, let go the head, when he will be observed to flinch upon bringing it towards the affected side. Let a person rattle some corn in a sieve at a distance behind, now on this side, now on that, and he will be observed to evince pain at turning the neck so as to strain the affected side; not so if the pain be in the foot, of course. As the horse will step short, and also throw out his leg somewhat in a semicircle, when he has received a prick in shoeing, this latter sign is not to be taken as finally indicative of "strain in the shoulder," until the foot has been examined, and the shoeing-smith questioned as to his skill and carefulness.

Cure.—If the injury be considerable, as when the horse has been thrown down, he should be bled at once, in the plate vein when it is local, but in the neck when the injury has been more general. A laxative ball, or a purgative, must follow as a matter of course, proportioned to the actual state of his body at the time. A fomentation of camomile flowers, or of scalded bran should be applied largely and assiduously at the chest and inside the elbow, and those remedies, with rest from all labour and exercise, generally perfect the cure.

Corns.

Corns are a very frequent disease, and common to all descriptions of horses. Those accustomed to slow work are least liable to it. The hind feet are generally not subject to the disease, although, in some few instances, I have discovered them, but not in a degree to produce the bad effects occasioned by the disease in the fore feet.

Corns generally appear in the inner heels of the fore feet, at the angle between the bars and the crust. They seldom occur on the outside heels. On removing the superfluous horn, corns show themselves by reddish appearance; and on the removal of more of the horn, they exhibit the appearance of a bruise charged with blood, which has made its way into the pores of the horn. This appearance sometimes predominates in the direction of the bars, and sometimes between the crust and the sole, taking the direction of the lamina.—

Corns, like thrushes, are not always accompanied with lameness, though it is a very frequent and troublesome consequence of them.

When lameness proceeds from corns, it generally comes on by degrees. When there is no reason to suspect the cause of lameness to be in any part above the foot, the shoe should be removed, when the drawing knife and pincers will soon ascertain if it is occasioned by corns.

Corns, as was observed before, may result from the horn taking a wrong direction in its early growth, or by the pressure of the *shoe:* those which arise from the latter cause are by far the most numerous. In some instances where corns have not been suspected to exist, and the horse has continued lame for some time, it is found that matter has formed under the horn, pervading the sole and frog, making its way up the lamina, breaking out between the hair and hoof, and terminating in a sinus called *a quittor.*

To remove any urgent symptoms, (if the horse is quite lame, and sunpuration is supposed to have taken place,) it will be proper to pare the horn as closely as the sensible part will allow, for the suppurated matter to escape; then fomentations and poultices will be necessary, with bleeding, physic, and a spare diet. As the inflammation abates, and the new horn grows out, any simple dressing may be applied.

It has sometimes been a practice to apply caustic applications, and indeed the actual cautery, to corns; but such a resort rather aggravates than alleviates the symptoms. Where it has been necessary to remove much of the horn, the animal should be suffered to remain in a loose place, or be turned to grass, until the horn is regenerated; or if required to work, when the injury is not serious, to have the hoof protected in with a bar shoe.

Hurts and Bruises in the Withers.

Horses are very apt to be hurt or wrung in the withers, by the biting of other horses, or by unfit saddles especially when the bows are too wide; for by that means they bruise the flesh against the spines of the second and third vertebræ of the back, which form that prominence which rises above their shoulders. When the swelling is moderate, the usual method is to wash the part with salt and water, or to apply horse dung, or salt and black soap mixed together, which very often succeeds. Any restringent charge, as bole and vinegar with whites of eggs, has the same effect as also the whites of eggs beat up into a foam with a piece of alum. This is very much recommended.

" Sometimes the hair is rubbed off, and the part becomes galled, in which case nothing is preferable to the rectified spirit of wine or brandy, which ought to be used often, covering the part with a flaxen cloth dipped in beeswax, and a little oil melted together, to keep the dirt from it, and defend it from the air."

An infallible Lotion for Blows, Bruises, and Sprains.

Take of spirit of wine, eight ounces; dissolve one ounce of camphor first, in the spirits of wine, then add one ounce of oil of turpentine, one ounce of spirit of sal ammoniac; oil of origanum half an ounce, and one large table spoonful of liquid laudanum. It must be well rubbed in with the hand, for full a quarter of an hour, every time it is used;

which must be four times each day, you will be astonished at its efficacy when you try it.

Horse Ointment.

Into a clean pipkin, that holds about a quart, put the bigness of a pullet's egg, of yellow rosin, when it is melted over a middling fire, add the same quantity of bees wax; when that is melted, put in half a pound of hog's lard; when it is dissolved, put in two ounces of honey; when that is dissolved, put in half a pound of common turpentine—keep it gently boiling, and stirring with a stick all the time—when the turpentine is dissolved, put in two ounces of verdigrease, finely powdered, but before you put in the verdigrease, you must take off the pipkin, (else it will rise into the fire in a moment,) set it on again, and give it two or three stirrings, then strain it through a coarse sieve into a clean vessel for use, throw away the dregs. This is an extraordinary ointment for wound or bruise in flesh, or hoof, broken knees, galled backs, bites, cracked heels, mallenders, or when you cut a horse, to heal and keep the flies away, nothing takes fire out of a burn or scald so soon.

Horse Medicine.

¼ oz. Crocus Metulorum
¼ oz. Phenegreck Seed
¼ oz. Salt Petre
¼ oz. Sulphur.

One dose, and excellent for a horse in any situation.

Remedy for the Blind Staggers.

Bleed in the neck three times a week. Take an ounce of assafœtida, one tea spoonful of salt petre, mix them and give them as a drink three times a week in the morning. Give an injection of meal, water, molasses and lard. Rub him well and exercise him moderately. A mash may be given him of bran, sulphur, salt petre, sassafras tea and assafœtida; but give no drink for six hours. If all this answers no purpose after a few days, then take twenty-five grains of calomel, two drachms of opium, one dram of powdered fennel seed, mixed with some syrup into a ball, and give it in the morning for three or four days.

It is said that the following treatment, after repeated trials has proved effectual.

Take juice of garlic six spoonfuls, and pour it down the horse's throat by means of a horn or bottle, or give it as a drench. If after two or three hours there is no relief then repeat it. The juice of the leek or onion, given in a greater quantity, will produce nearly the same effect.

It is pretty well ascertained that horses confined in stables, seldom, if ever, have the staggers.

Salivation in Horses.

It is said that if parsley seeds are sown with clover seeds, the hay or grass produced by the mixture will cure Slavers, or Salivation in horses, a troublesome complaint in which water runs profusely from the mouths of the animals.

Inflammation or Blindness of the Eyes.

This disease has usually been found incurable, and when a horse's eye has once been affected with it, the proprietor is generally anxious to sell the horse, aware of the disease returning sooner or later, and finally erminating in blindness

Bleeding, moderate purging, a cool diet, and a well-aired stable, afford a temporary relief, and moderate the severity of the symptoms. Considerable benefit is derived, in some cases, from the application of the vinous tincture of opium two or three times a day, in the simple form of a wash A seton in the temple, or cheek, has also been advised by some; but as far as I have been able to observe, these remedies never prevent the repetition of attacks, and the ultimate destruction of the organ.

To cure Gripes in Horses.

This disorder goes by different names, in different districts of the country, as fret, from the uneasiness attending it; bots, from its being thought to arise from these animals or worms, &c. The animal looks dull, and rejects his food; becomes restless and uneasy, frequently pawing; voids his excrements in small quantities, and often tries to stale; looks round, as if towards his own flank, or the seat of complaint; soon appears to get worse, often lying down, and sometimes suddenly rising up, or at times trying to roll, even in the stable, &c. As the disorder goes on, the pain becomes more violent, he appears more restless still, kicks at his belly, groans, rolls often, or tumbles about, with other marks of great agitation, becomes feverish, and has a cold moisture at the roots of the ears and about his flanks, and when he lies at rest a little space, begins to perspire strongly, and to get covered with sweat more or less profuse.

In most cases of ordinary gripes, signs of flatulence, or of the presence of air confined in the bowels, occur and constitute a part of the disease or increase it. The removal of it is, therefore, an object to which the attention of most grooms has been in a chief degree directed; and as it can frequently be got rid of, and the disease cured, by exciting the powerful action of the intestines, cordial and stimulating medicines are had recourse to, and, no doubt, in many have afforded relief. Some farriers, indeed, without much care in distinguishing cases, almost exclusively rely upon such, and employ them too freely. This, however, should not be done: for it sometimes happens, that disorders not unlike flatulent colic or gripes do occur, when there is neither pent up air present, nor any relaxation, or want of energy and action in the intestines themselves, and stimulating medicines might then do no good, but often much mischief.

When the disorder is early discovered, or has newly come on, it will be proper to lose no time to get ready a clyster, and likewise a medicinal draught for removing the wind and abating the pain. After removing with the hand any excrement in the great gut, that can be reached by it, a clyster made of five or six quarts of water, or water-gruel, blood warm, and six or eight ounces of common salt, may be injected: and one or other of the following draughts may be given, before or about the same time.

Draught for the same.

Take of Venice turpentine, 1 ounce, beat it up with the yolk of an egg, and then add of peppermint water, or even of common water, if the other is not at hand, 1 pint and a half (English measure) and 2 ounces of whiskey or gin. This will serve for one dose.

Another.—Take of table beer, a little warmed, 1 1-2 pints (English;) common pepper or powdered ginger, 1 tea-spoonful; gin, whiskey, or rum, from 2 to 4 ounces, or from 1 to 2 glasses full; these mixed together for one dose.

Another.—Oil of turpentine 1 ounce, and water-gruel 1 1-2 pints (English) mixed, for a dose.

These and the like preparations may be given either out of a bottle, or drench-horn, one or two persons raising and keeping properly up the horse's head, while another who administers the medicine, pulls out, and a little aside, the tongue, with his left hand, and with the other pours in the draught.

Further treatment.

Cordial drenches of the kinds recommended, with the clyster, will have effect in ordinary cases to relieve the disorder. But should this not be the case, after waiting an hour or two, (longer or shorter according to the severity of the ailment, or the period since its commencement,) then the medicine should be repeated, but in a less dose than at first—perhaps one-half or two-thirds of the former quantity. The horse should be occasionally walked out, properly covered with clothes, lest the chill air bring on shivering, and give rise to feverishness; and his belly should be now and then rubbed a considerable time at once, five or ten minutes, but with intervals of rest, so that it may have time to stale or dung. If the disorder does not yield to these remedies, then others must be employed of a more active nature. Some persons recommend caster oil in the proportion of half a pint to a pint (English,) with an ounce or two of laudanum, or tincture of opium, mixed with water gruel, in the quantity of a pint English or rather less. In case the horse has lain down, and continued so for some time, and is covered with sweat, when he rises, two or more persons should be employed to rub him dry, and he should also be kept well clothed. The stable should be airy, moderately cool, and his place in it roomy and well littered, to keep him from hurting himself should he roll about.

White's ball for Gripes.

Draughts of liquid medicine operate more speedily than any other form; but as the disorder may attack a horse during a journey, where such cannot readily be procured, Mr. White has given a receipt for a ball for the convenience of those who travel; and if it be wrapped up closely in a piece of bladder, it may be kept a considerable time without losing its power. The ball is composed of the following ingredients, viz. 'Castille soap 3 drachms, camphor 2 drachms, ginger 1 drachm and a half, and Venice turpentine 6 drachms; to be made into a ball for one dose.'

Remedy for Anticor.

This is a swelling of the throat and gullet, similar to the angina in man. The cure must be begun by bleeding, and that needs not be very sparing: for this disease seldom happens to horses that are poor and low. And here we also approve of sticking one or other of the veins in the hind parts, to make revulsion. After bleeding, the following clyster may be given:

Take two handfuls of barley, two ounces of sal polychrest, reduced to fine powder: boil them in two quarts of water for a quarter of an hour: add to the decoction a pint of wine, four ounces of fresh butter, and two ounces of oil of rue. Let this be given bloodwarm, and repeated twice a day, or oftener. If he takes to food, nothing must be given him but moistened hay, and scalded bran; or whatever else must be chiefly such things as are proper to keep down the heat and inflammation, and abate the feverish symptoms; for which purpose we recommend, after blooding, those things that are proper to promote sweat. Therefore, let the following drench be prepared for him:

Take treacle water and carduus water, of each one pint; dissolve in these two ounces of Venice treacle: and after this has been given, clothe him well, and give him a little warm water to drink. Instead of the treacle and carduus water, a pint o stale beer, mixed with small beer, may be usec Nothing is so effectual to remove inflammation especially after bleeding, as sweating: therefore, if you find it difficult to promote sweat, you may give the following ball:

Take old Venice treacle two ounces, volatile salt of hartshorn fifteen grains, Mathews' pill one drachm, camphor in powder six grains, powder of liquorice, or sassafras in powder, as much as is sufficient to make it into a paste. Let this be given after the operation of the clyster is over.

If the symptoms begin to abate, you may venture to give your horse a gentle purge.

If the swelling appears outwards, and if the other symptoms abate, you may leave off purging: for what is intended by that evacuation, is chiefly to disperse the inward disorder. Next, you are only to apply ripening cataplasms, allowing him sal prunellæ, nitre, or the sal polychrestum, dissolved in his drink.

Cow's dung alone, applied warm to the part, with lard or ointment of marsh mallows, may be sufficient to bring the swelling to maturity.

When the matter seems ready for a discharge, it may be opened in the dependent lowermost part, by the application of a hot iron; afterwards keeping a dossel in the mouth of the wound till the running abates; and applying compresses and convenient bandage to keep the elevated skin close to the flesh, that it may be the sooner united. But if the cavity of the imposthumation be large, it will not be amiss to lay it open an inch or more.

The cure may be finished with applying only the unguentum basilicum; or a digestive made with turpentine, the yolks of eggs, or honey, with a moderate mixture of brandy, or spirit of wine. And if any foulness appears, or if it heal too fast, or if spongy soft flesh arise, pledgets dipped in copperas water, or a solution of blue vitriol, may be applied, which will keep it smooth and even.

But if the swelling increase fast, with no tendency to digestion, and if it rise up towards the neck, affecting all the muscles of the part, the horse will be in danger of suffocation, unless a course different from the former be taken.

Besides repeated bleeding, if he is not too much worn out, take a hot searing iron, and apply it to five or six places on the lower part of the swelling, cauterizing those parts, that they may be speedily brought to matter, which may be dressed with flax dipped in tar and turpentine, mixed before the fire, and applied warm. For by giving pain in those dependent and inferior parts, you cause the humors to flow down-wards from the swelling; and by making vents you prevent excessive violence of pain. Nor need you be afraid of the swelling that may happen in the fore-legs, &c. by cauterizing; for that cannot be of so ill consequence as when it is upon the neck and throat; nor will it be of any consequence, if care be taken of the vents.

Solleysell recommends the making of small incisions with a fleam or lancet, in eight or ten places, on the swelling; and to thrust into the holes, between the skin and the flesh, pieces of the root of black hellebore: and if the tumor be very large, he recommends the use of white hellebore; at the same time chaffing the part with the ointments of agrippa and marsh mallows. The root, by their hot quality, draw down and increase the swelling; and the ointments are to ripen the inclosed matter, and fit it for a discharge.

The same author also recommends the use of Ruptories, for drawing an immediate flux of moisture from the diseased part. These are ointments of the same nature as those made to draw blisters on the human body, and composed of the same materials. The way to apply them is, to spread them by little at a time on the part affected, holding a bar of hot iron to make them sink in.

Remedy for Lameness in Horses.

Mr. Sewell, of the Veterinary College, stated his having discovered a method of curing horses, which are lame in the fore-feet. It occurred to him, that this lameness might originate in the nerves of the foot, near the hoof; and in consequence he immediately amputated about an inch of the diseased nerve, taking the usual precautions of guarding the arteries, and passing ligatures, &c. By this means the animal was instantly relieved from pain, and the lameness perfectly cured.

To cure the Thrush in Horses' Feet.

Simmer over the fire, till it turns brown, equal parts of honey, vinegar, and verdigris, and apply it with a feather or brush occasionally to the feet. The horse at the same time should stand hard, and all soft dung and straw be removed.

Shoeing Horses in Winter.

In Canada, where the winter is never of a less duration than 5 months, they shoe their horses in the following manner, which serves for the whole winter:—The smith fixes a small piece of steel on the fore part of each shoe, not tempered too hard, which turns up about a 1-4 of an inch, in the shape of a horse's lancet; the same to the hinder part of the shoe, turned up a little higher than the fore-part, tempered in the same manner. In going up a hill, the fore-part gives a purchase that assists the horse, and in going down prevents him sliding forwards.

To prevent the feet of Horses from balling with snow.

If the frog in the hoof of horses and the fetlock be cleaned, and well rubbed with soft soap, previously to their going out in snowy weather, it will effectually prevent their falling, from what is termed balling the snow. A number of accidents might be prevented by this simple precaution.

Ointment for the Mange.

Take of common turpentine, 1 pound, quicksil ver, 4 ounces, hog's lard, 1-2 a pound, flour of sulphur, 4 oz. train oil, 1-2 a pint.

Grind the silver with the turpentine, in a marble mortar, for five or six hours, until it completely disappears; and add a little oil of turpentine to make it rub easier; then add the remainder, and work them all well together till united.

This ointment must be well rubbed on every part affected, in the open air, if the sunshine and the weather be warm; but if it be winter, take the horse to a blacksmith's shop, where a large bar of iron must be heated, and held at a proper distance over him, to warm the ointment.

Liniment for the Mange.

Take of white precipitate, 2 ounces, strong mercurial ointment, 2 ounces, sulphur of vivum, 1 pound, flour of sulphur, 1-2 a pound, rape oil, 2 quarts.

First grind the white precipitate in a little oil; afterwards add the remainder, taking care that they are well mixed.

This liniment must be well rubbed in with a hard brush, in the open air, provided the day be fine, and the weather warm. If the horse draw in a team, the inside of the collar must be washed, or the inside of the saddle, if a saddle-horse, for the disease is highly contagious.

Paste to stop Bleeding.

Take of fresh nettles, 1 handful, bruise them in a mortar; add, blue vitriol, in powder, 4 oz. wheaten flour, 2 oz. wine vinegar, 1-2 oz. oil of vitriol, 1-2 oz. Beat them all together into a paste. Let the wound be filled up with this paste, and a proper pledget of tow laid over the mouth, in order to prevent it from falling out, and then bandage it on with a strong roller. This dressing must remain in the wound 10 or 12 hours.

Ointment for Scratched Heels.

Take of hog's lard, 1 pound, white lead, 4 oz. alum, in fine powder, 2 oz. white vitriol, 1 oz. sugar of lead, 1-2 oz. olive oil, 3 oz.

Grind all the powders in a marble mortar with the oil, or on a marble slab; then add the lard, and work the whole together till united.

This is a neat composition, and very proper to keep in a stable during the winter; it will not only be found useful for greasy and scratched heels, but also for stubs and treads of every description. A small quantity must be rubbed on the part affected every night and morning, in slight cases; but in treads, or wounds upon the heels, it will be best to spread the ointment on pledgets of tow, and secure them with bandages.

Ointment for Greasy Heels.

Take of white ointment, 1 pound, white vitriol, blue vitriol, and sugar of lead, in powder, each 1-2 oz.

Mix well together.

This ointment, when used, must be spread on strong brown paper, and applied over the part that greases, and bandaged on with listing. He may, after dressing, be turned into a dry straw-yard, and a few diuretic balls given to him; one may be given every third day. Once dressing is in general sufficient to perform a cure; if not, it may be repeated in a week after.

Astringent Embrocation for Strains in different parts.

Take of camphor, 2 drachms, dissolved in 1-2 an oz. of strong rectified spirit of wine, nitre, 1 oz. dissolved in 1-2 a pint of wine vinegar, spirits of turpentine, 4 oz. white lead, or bole armenic, in powder, 1-2 oz. aqua fortis, 1 oz.

Mix, and shake them all together in a bottle for use.

Mixture for Canker in the Mouth.

Take of wine vinegar, 1-2 a pint, burnt alum, and common salt, each 1 oz. bole armenic, 1-2 oz.

Mix, and shake them together in a bottle for use.

It will be proper to dress the horse's mouth with this mixture, every morning and evening, in the following manner. Take a small cane, or a piece of whale-bone, half a yard long, and tie a linen rag, or a little tow, round one end; then dip it into the mixture, and pass it up his mouth, and gently remove it to all the affected parts: let him champ it well about in his mouth: after which let him fast an hour, then give food as usual.

Canker and Wounds in the Mouth.

The mouth is injured much oftener than the careless owner suspects, by the pressure of a sharp bit. Not only are the bars wounded and deeply ulcerated; but the lower jaw between the tush and the grinders is sometimes torn even to the bone, and the bone itself affected, and portions of it come away. It may be necessary to have a sharp bit for the headstrong and obstinate beast, yet if that be severely and unjustifiably called into exercise, the animal may rear, and endanger himself and rider; but there can be no occasion for a thousandth part of the torment which the trappings of the mouth often inflict on a willing and docile servant, and which either render the mouth hard, and destroy all the pleasure of riding, or cause the horse to become fretful or vicious.

To cure the Strangles.

The treatment of strangles is very simple. As the essence of the disease consists in the formation and suppuration of the tumor under the jaw, the principal, or almost the sole attention of the practitioner should be directed to the hastening of these processes: therefore, as soon as the tumor of strangles evidently appears, the part should be actively blistered. Old practitioners used to recommend poultices; which, from the thickness of the horse's skin, must have very little effect, even if they could be confined on the part; and from the difficulty and almost impossibility of this, and their getting cold and hard, they must weaken the energies of nature, and delay the ripening of the tumor. Fomentations are little more effectual A blister will not only secure the completion of the process, but hasten it by many days, and save the patient much pain and exhaustion; and it will produce another good effect—it will, previous to the opening of the tumor, abate the internal inflammation and soreness of the throat, and thus lessen the cough and wheezing.

As soon as the swelling is soft on the top, and evidently contains matter, it should be deeply and freely lanced. It is a bad, although frequent practice, to suffer the tumor to burst naturally, by which a ragged ulcer is formed, very slow to heal and difficult of treatment. If the incision is deep and large enough, no second collection of matter will be formed: and that which is already formed may be suffered to run out slowly, all pressure with the fingers being avoided. The part should be kept clean, and a little friar's balsam daily injected into the wound.

The remainder of the treatment will depend on the symptoms. If there is much fever, and evident affection of the chest, and which should carefully be distinguished from the oppression and choking occasioned by the pressure of the tumor, it will be proper to bleed. In the majority of cases, however, bleeding will not only be unnecessary, but injurious. It will delay the suppuration of the tumor, and increase the subsequent debility. A few cooling medicines, as nitre, emetic tartar, and perhaps digitalis, may be given, as the case requires. The appetite, or rather the ability to eat, will return with the opening of the abscess. Bran-mashes, or fresh cut grass or tares, should be liberally supplied, which will not only afford sufficient nourishment to recruit the strength of the animal, but keep the bowels gently open. If the weakness be not great, no further medicine will be wanted, except a dose of mild physic, to prevent the swellings or eruptions which sometimes succeed to strangles. In cases of debility, a small quantity of tonic medicine, as camomile, and gentian with ginger, in doses of a couple of drachms, may be administered.

Vives.

A disease in horses, which differs from the strangles only in this, that the swellings of the kernels under the ears of the horse (which are the parts at first chiefly affected) seldom gather or come to matter, but by degrees perspire off, and disperse, by warm clothing, anointing with the marsh mallow ointment, and a moderate bleeding or two. But should the inflammation continue notwithstanding these means, a suppuration must be promoted.

When these swellings appear in an old or full aged horse, they are signs of great malignity, and often of an inward decay, as well as forerunners of the glanders.

Take of crude mercury, or quicksilver, one ounce; Venice turpentine, half an ounce; rub together in a mortar till the globules of the quicksilver are no longer visible; then add two ounces of hog's lard.

Some authors recommend this ointment to be used at first, in order to disperse the swellings, and prevent their coming to matter; bleeding and purging at the same time for that purpose; but as in young horses they seem to be critical, the practice by suppuration is certainly more eligible and safe: For want of properly affecting which, the humors frequently settle, or are translated to the lungs, and other bowels, or falling on the fleshy part of the hind quarters, form deep imposthumes between the muscles, which discharge such large quantities of matter as sometimes kill the horse, and very often endanger his life.

To cure Wind Galls.

On the first appearance of wind galls, their cure should be attempted by restringents and bandage, for which purpose let the swelling be bathed twice a day with vinegar, or verjuice alone, or let the part be fomented with a decoction of oak bark, pomegranate, and alum boiled in verjuice, binding over it, with a roller, a woollen cloth soaked in the same. Some for this purpose use red wine lees, others curriers' shavings wetted with the same, bracing the part up with a firm bandage.

If this method, after a proper trial, should not be found to succeed, authors have advised that the swelling be pierced with an awl, or opened with a knife; but mild blistering is in general preferred to these methods; the included fluids being thereby drawn off, the impacted air dispersed, and the tumor gradually diminished. A little of the blistering ointment should be laid on every other day for a week, which brings on a plentiful discharge, but generally in a few days is dried up, when the horse may be put to his usual work, and the blistering ointment renewed in that manner once a month or oftener, as the horse can be spared from business, till the cure is completed. This is the only method to prevent scars, which firing of course leaves behind, and unless skilfully executed, too often likewise a fulness of the joint, with stiffness. The mild blistering ointment, where the sublimate is left out, is the properest for this purpose.

Regimen for a Wind-broken Horse.

This disorder is commonly caused by surfeiting, violent exercise when the belly is full, or by being ridden or driven into the water when he is hot and sweaty, or from an obstinate cold not well cured.

For the cure of this disorder, Dr. Braken advises, 'that the horse should have good nourishment, much corn and little hay, and that every day the water given him be impregnated with half an ounce of salt petre, and two drachms of sal ammoniac.' Some say the hay made of white weed will cure this distemper.

A broken winded horse had been kept in a field where there was not any water, except in the bottom of an old lime kiln, and had recovered his wind—The owner ordered a stable shovel full of quick lime to be renewed every five or six days, and the water to be poured off, and a bucket of it to be given every day to a broken winded coach horse, aged eight years, which had almost a constant cough. The horse was supplied with water thus prepared for about five weeks, and kept in the stable. He is now perfectly recovered in his wind, and free from a cough.

Remedy for Sand-Cracks

A split or crack in the hoof, on the inside quarer of the fore foot, for the most part, but often on the front of it, down towards the toe, and occasionally on the outside, and also near the heel. Sometimes it appears on the hind foot, on the front of it, and prevails with us generally in hot weather.

Cure.—It will be seen that a slight crack may, by working the animal, become one of the worst species. Pare away the rotten parts, if such be found, and make a transverse incision across the upper part of the crack; wash out the sand or dirt, apply daily tincture of tar, with a pledget of tow, and give the horse rest. Bind round the hoof tight with listing, and stop up the sole with cow-dung, and this treatment will suffice in ordinary cases. But when the crack extends so high, that there is no room left for making this incision across, to stop the progress of the crack, the disorder has assumed its worst aspect: the edges of the crack internally now press upon the sensible part, or laminated substance that holds the coffin bone and hoof together, and inflammation succeeds, if blood does not issue forth. If the crack affects the coronet, you may draw one side of it down to the quick about an inch with good effect, but no farther, as that would occasion the hoof to divide more readily. Rest, however, will restore adhesion to the upper part of the crack, and when this has taken place extensively, the operation of cutting across, or of firing it across with one line only, may be performed with every prospect of success; for as the hoof grows down, which it does from the coronet, this transverse artificial crack you have made intercepts the material for forming horn, on its inside, and thus contributes greatly to fill up the chasm below. To increase this supply of the horny material, let the coronet be anointed with a solution of tar and tallow and hog's lard daily, which should be extended to the horny part of the hoof.

String Halt.

This is a kind of lameness peculiar to the hind quarters of a horse, which occasions a sudden jerking of the legs upwards in his going. When it seizes the outside muscles the horse straddles and throws his legs outwards. But when the inside muscles are affected, his legs are twitched up to his belly. Sometimes it is only in one leg, sometimes in both. The cure is difficult, and rarely accomplished. Rubbing and fomentations are recommended, with daily moderate exercise: By which the blood and spirits may be equally derived into the disordered muscle and its corresponding one.

Malanders.

It consists of chops, or cracks, on the inside of the fore legs against the knee, discharging a red sharp humour.

To cure this disease, wash the cracks with warm soap suds or old urine; then rub them twice a day with an ointment of hog's lard mixed with two drachms of sublimate of murcury. Or apply a poultice of the roots of marsh mallows and flax-seed, softened with linseed oil, tying it on with a roller. Continue that till the seeds fall off and the sores become clean. Afterwards a mixture of turpentine and quicksilver will be a proper application.

Scratches, or Selenders.

A disorder between the hinder pastern joints and noofs of horses, consisting of cracks and soreness, with suppuration. It is troublesome commonly in the winter season only.

Nothing tends so much to prevent grease and swelling of the legs, as frequent hand-rubbing, and washing the heels carefully with soap suds, as soon as a horse comes in from exercise. In inveterate cases, where the disease appears to have become habitual in some degree, a run at grass is the only remedy; if a dry pasture be procured where a horse can be sheltered in bad weather, and fed with hay and oats, it will be found extremely convenient, as in such circumstances he may perform his usual labor, and at the same time be kept free from the complaint.

To relieve a Hide-bound Horse.

A horse that is hide bound grows lean, has a feverish heat, his skin sticks to his ribs, the spine becomes harder than usual, small biles break out on his back, and yet his appetite sometimes continues good. As this disorder seldom is an original complaint, but generally arises from some former cause, règard must be had to that cause, in the method of cure. But as to the disorder itself, Vegelius directs the anointing the whole body with oil and wine mixed together, rubbing them strongly against the hair, in a warm sun, in order that the skin may be relaxed, and a sweat break out; after which the horse should be well curried, and placed in a warm stable, with plenty of litter.

The authors of the *Maison Rustique* advise that the next day after bleeding the horse, a fomentation be made of emollient and aromatic strengthening plants, boiled in lees of wine, or beer, and that the whole body of the horse be rubbed with these plants, whilst they are warm, till it is thoroughly wet; and that the loins, belly, and neck, as well as the rest of the body, be anointed with a mixture of one part honey and three parts of ointment of elder, rubbing it strongly in with the hand, that it may penetrate the skin. This done, the horse should be covered with a cloth dipt in the warm fomentation, and doubled, and another covering should be put over this, tying it on with one or two surcingles. The horse should remain in this condition 24 hrs., and then be fomented, rubbed, &c. twice as before. These fomentations being finished, a warm covering must be continued, lest the horse catch cold; and he should then have an opening clyster, and the next morning a purging medicine; continuing to wash his head and neck, and also to rinse his mouth with the decoction.

For food, put into a pail or two of water about half a bushel of barley meal carefully ground, stir it well about, and let it settle. When the heaviest parts have subsided, pour the thin part off for the horse to drink, and give him what remained at the bottom, at three different times in the day, mixing with it a due quantity of crude antimony.—The horse must have rest for some time, and be fed with the best hay, or grass according to the season of the year In spring, there is nothing better than new grass In about three weeks, he will begin to mend remarkably.

Rowel.

A kind of issue, or artificial wound, made in the skin of a horse, by drawing a skein of silk, thread or hair, through the nape of the neck, or some other part, answering to what surgeons call a seton.

Horses are rowelled for inward strains, especially about the shoulders or hips, or for hard swellings that are not easily dissolved. The rowel may be made in almost any part, and should always be not far from the diseased part, and about a hand breadth beneath it. The two ends of the rowel should be tied together, that it may not come out, and be smeared with lard, or fresh butter, before it is put in. Afterwards, it should be daily smeared again, and drawn backwards and forwards, that the putrid matter may discharge itself.

What are called rowels by the English Farriers are made as follows: An incision is made through the skin, about three eighths of an inch long. Then the skin is separated from the flesh with the finger, or with the end of a blunt horn, as far as the finger will easily reach. Into this a piece of leather made very thin, and round shaped, is introduced, about the size of a crown piece, having a large round hole in the middle of it. Previous to introducing the leather, it is covered with lint or tow, and dipped in some digestive ointment. Also a pledgit of tow, dipped in the same ointment, is put in the orifice, to keep out the cold air.

Rules for Bleeding.

Rule 1. Always give purging physic after letting blood. 2. Never bleed immediately after a run; nor at the moment pretend to pass judgment on the pulse, as it is then flurried. 3. You may bleed after a fall, or a contused wound; though the pulse be not quick, it will then be irregular: incised wounds do not require bleeding, since enough escapes at the wound. 4. If the blood in the measure be very hard, with buff at the top, the animal may be bled again: it indicates high fever. 5. If the blood scarcely coagulates, the poor creature ought not to have been blooded at all.

Grease.

A distemper so denominated, is a swelling and gourdiness of the legs of horses, which frequently happens to them after a journey. Most people have believed their grease to be melted by hard riding, and fallen into their legs: And that which may have given encouragement to this opinion, is the colour of the matter issuing from the chinks and sores in those parts, when they come to break, somewhat resembling grease. The distemper may arise from various causes. If the grease be an attendant on some other distemper, the cure will be the more difficult, and it will be in vain to expect a recovery, until the disease is removed which occasioned it.—Therefore, methods for the cure of those distempers must be followed, and applications made outwardly for this. But if it be an original disorder, and if the horse have been pampered, or well fed, the cure ought to be begun by bleeding and purging, to lessen the redundancy of humors. Neither should these be too often repeated: But what is wanting in that way had much better be effectuated by a more spare diet, with daily exercise. After moderate evacuations, a rowel may be made on the inside of the thigh, or on the belly; which may be continued for a month, or longer if necessary. In the mean time the cinnabar or antimonial balls ought to be constantly given. And while these things are doing internally, the legs should be frequently rubbed, not with hard instruments, but with a good wisp of hay, or a brush. Baths and fomentations, such as may cause the humours to go off by perspiration, or render them fit to return in the circulations, are also to be made use of. For this purpose the following is recommended.

Take wormwood eight handfuls, John's wort, centaury, camomile, of each four handfuls, elder flowers two handfuls, bayberries half a pound: Boil them in two gallons of water till one third is consumed, and make a fomentation.

The horse's legs are to be bathed three or four times a day, with woollen cloths wrung out of the liquor, and applied as hot as he can bear them, adding a little of the spirit of wine or brandy. And if they be much inflamed, as happens when the sinews are affected, a good quantity of the ashes of the green twigs of vines, walnut or oak, may be boiled in the decoction, adding more water, when the other ingredients are easily to be had.

The lees of wine, with a mixture of soap, are also very proper to be applied warm: As also cow's dung boiled in vinegar.

Suitable cataplasms in bad cases are proper. The camphorated spirit of wine alone is good, viz. an ounce of camphor to a pint of spirit. Frequently used, it will answer well when the swelling is new.

Ringbone.

At times a badly cured quittor, at others ill-shapen foot; which occasions that concussion of the hoof and small pastern bone at their conjunction, which causes the latter to swell at the coronet. Cart and wagon horses with short upright hoofs, that do not sufficiently secure the articulation of the coffin and pastern bones against injury, are most liable to this disease.

Symptoms.—Lameness is sometimes the first intimation we have of the existence of ringbone, which is at first neglected, and only ascertained by passing the hand down over the part. As usual with most diseases of the foot, the attendant commonly ascribes the lameness to a strain higher up—of the shoulder generally, as ringbones afflict the fore foot oftener than the hinder one. It consists in the ossification of the cartilage in front of the foot, which extends in time to the lateral parts also.

Remedies.—These may be applied to relieve, but no cure is to be found for ringbone. As high-heel usually accompanies the short upright hoof, the concussions of the foot may be lessened by lowering the heels. Apply blistering ointment to the seat of the disease, and firing may also be employed with advantage.

Lampers, or Lampas.

Idle or ill-worked young horses are most liable to lampas. A swelling of the bars of the mouth follows the rising vigor and heat of the animal; they then project below the surface of the teeth, and interfere between them while feeding. The pain is necessarily very great on feeding, and the animal ceases to chew of a sudden; it afterwards commences anew,with greater caution; but as the disorder becomes worse, it refuses food entirely, and starvation would be the consequence if something did not intervene which is always sure to happen.

The cure would be effected of itself, if the horse lived in a state of nature, or more probably in that state he never would have contracted the disease. Over-gorging and consequent fulness of habit having occasioned the blood to flow luxuriantly towards the region of the head and throat, so that disorder is thereby produced, the reduction of that full habit follows this compulsory abstemiousness which the afflicted animal practices much against his will, and might teach man himself a monitory lesson he is usually slow in attending to, until too late. Reducing the system is the neatest method of removing lampas, and purgatives should be employed; bran mashes, in which an ounce of nitre daily has been introduced, may also be given until the pulse becomes more natural. If the lampas be not lessened by these means, the projecting part is to be cut with a lancet, but some people commence operations with the searing iron, as the readiest way, and give physic afterwards. This application never fails.

Poll Evil.

The poll evil is an abscess or swelling found in the sinews, between the noll bone and the uppermost vertebræ of the neck. When this swelling first makes its appearance, bathe it frequently with hot vinegar; and if the hair be fretted off, with an oozing through the skin, make use of equal parts of vinegar and spirits of wine; but if there be an itching, with heat and inflammation, the safest way will be to bleed plentifully and apply a red oak poultice, which will sometimes disperse the swelling, and put an end to the disease. But whenever the tumor is critical, having all the signs of matter, and appears not benefited by the applications already recommended, it will be advisable to bring it to a head as speedily as possible, with the following poultice; corn-meal, marsh-mallows, oil turpentine and hog's lard. When the tumor becomes ripe, or full of matter, it may be either opened or permitted to break of itself—if opened with a knife, great care should be used to prevent wounding the tendinous ligament that runs along the neck under the mane. When the matter appears to be on both sides, the tumors must be opened on both sides, and the ligament between remain undivided; if the matter flows in great quantities, resembling melted glue, and is of an oily consistence, it will require a second incision, especially if any cavities are discovered by the finger or probe; these should be opened by the knife, and the wound should be dressed with spirits of turpentine, honey, and tincture of myrrh, until light and thick colored matter is found. Cleanse the sore well with strong soapsuds and a sponge, then take of verdigris half an ounce, oil of turpentine four ounces, of blue stone two ounces, of green copperas half an ounce; mix them well together, and hold them over a fire until they are as hot as the horse can bear them; then pour them into the absçess, and close the lips by one or two stiches; this is to remain several days without any other dressing except bathing with spirits of wine. Should matter flow in great abundance, and of thin consistency, the above application must be again repeated until the matter decreases in quantity and becomes of a whitish color and healthy appearance.

Remedies for Sprains.

Mason's Farrier prescribes the following remedies for strains.

NUMBER I.

Take of sharp vinegar, one pint, spirit of any kind half a pint, camphor one ounce; mix them well together, and bathe the part injured twice a day; a piece of flannel wet with the mixture, and wrapped around the part, will be very beneficial; take from the neck vein half a gallon of blood.

NUMBER II.

Take of opodeldoc a piece the size of a marble, and rub it on the srained part with the naked hand, until the hand becomes dry, twice a day; should the injured part resist both of those remedies, you may conclude the injury is a very serious one, which nothing but time can relieve, and the horse must be turned out upon grass a sufficient length of time for nature herself to perform the great operation.

Low Fever.

A good restorative for lowness, occasioned by the moulting fever of autumn, is recommended by J. Clark, of Edinburgh: he says, "the end of autumn proves very severe to those horses whose flesh and strength are exhausted by hard labour. In this low and spiritless state the moulting season comes on, and carries off numbers that good nursing and feeding, with rich boiled food, at this season might have preserved. Carrots and potatoes recover some horses surprisingly; it renews their flesh and the fluids generally, and promotes the secretions; it operates upon them nearly in the same manner as spring grass, and its effects are presently visible on their coats." Many stable men give oatmeal mixed up into bergue, or crowdie, for horses that evince signs of languer and lownes of spirit, after fatiguing work in winter: if made into stiff gruel, i. e. boiled, the restorative effect is found still more desirable, and a smaller quantity of oats then sufficeth. A gradual return of hard food does all for the horse's working condition which can be desired.

A table for distinguishing between the Colic or Gripes, and Inflammation of the Bowels, by the symptoms that mark the character of each.

Spasmodic or flatulent colic.	*Inflamation of the Bowels.*
1. Pulse natural, though sometimes a little lower.	1. Pulse very quick and small.
2. The horse lies down, and rolls upon his back.	2. He lies down and suddenly rises up again, seldom rolling upon his back.
3. The legs and ears generally warm.	3. Legs and ears generally cold.
4. Attacks suddenly, is never preceded, and seldom accompanied by any symptoms of fever.	4. In general, attacks gradually, is commonly preceeded and always acoompanied by symptoms of fever.
5. There are frequently short intermissions.	5. No intermissions can be observed.

Treatment of Wounds.

A wound must be treated in some measure according to the part of the horse's body in which it happens; but there are some principles to be observed alike in all horse surgery. There are likewise a few, which, as they differ from the principles of human surgery, should be first noticed, and which should guide the practice of those who might be misled by analogy. The wounds of horses, however, carefully brought together and confined in their situation, as well as shut out from the stimulus of the external air, are seldom disposed to unite at once, or, as it is called in surgical language, by the *first intention.* It is always, therefore, necessary to expect the suppurative process; but as the adhesive inflammation does now and then occur, we should never wash with water or other liquids a mere laceration, if no foreign matter, as dirt, &c., be suspected to be lodged within it, still less should we stuff it with candle or tents of any kind. On the contrary, it should be carefully and smoothly brought together, and simply bound up in its own blood; and if it do not wholly unite at once, and by the *first intention*, perhaps some portion of it may; and, at all events, its future progress will be more natural, and the disfiguration less than when stuffed with tents, tow, &c., or irritated with healing oils or spirits. When an extensively lacerated wound takes place, it is common, and it is often necessary to insert sutures, or stitches, into the lips of the wound: and here we have to notice another considerable variation from the principles of human inflammation, which is, that these stitches in the horse, ox, and dog, soon ulcerate out, seldom remaining longer than the third or fourth day at farthest. It therefore is the more necessary to be careful, that by perfect rest, and the appropriation of good bandages, we secure the wound from distortion. In this we may be assisted by strips of sticking plaster, made with diachylon and pitch: but these strips should be gaurded from touching the wound itself by means of lint or tow first put over it. When, in addition to laceration in a wound, there is a destruction of substance, then the caution of washing will not apply, as it will be necessary to bathe with some warming spirit, as, tincture of myrrh, tincture of aloes, or friar's balsam, to assist in restoring the life of the part, and in preventing mortification. Bleeding must be stopped by pressure and astringents, as powdered alum: when it is very considerable, the vessel from which the blood comes must be taken up. When great inflammation follows wounds and bruises, counteract it by bleeding, a cooling temperature, opening medicines, and continual fomentations to the part itself.

Mode of giving a Ball.

Back the horse in his stall, and being elevated on a stool, (not a bucket turned upside down,) gently draw the tongue a little out of the mouth, so as to prevent its rising to resist the passage of the hand; the tongue should however not be laid hold of alone, but it should be held firmly by the fingers of the left hand against the jaw. The ball previously oiled, being taken into the right hand, which should be squeezed into as narrow a shape as possible, must be passed up close to the roof of the mouth, and the ball placed on the root of the tongue, when both hands being withdrawn, it will readily pass down.

Mode of giving a drink.

Exactly the same process is pursued, except that a horn holding the liquid matter is forced up the mouth; the passage being raised beyond the level line, the liquid is poured out from the larger end of the horn, and when the tongue is loosened it is swallowed. Clark, however, ingeniously proposes to substitute the smaller end of the horn, the larger being closed, by which, he says, the horn can be forced up the mouth between the teeth, and poured further back so as to insure its not returning.

Fomentations

Are very commonly recommended of various herbs, as rue, chamomile, St. John's wort, wormwood, bay leaves, &c. but the principal virtue is to be found in warmth and moisture, which unload the vessels: but this warmth ought not to be too considerable, except when the inflammation is within, as in inflamed bowels. Here we foment to stimulate the skin, and cannot foment too hot; but when we do it at once to an inflamed part, it ought not to be more than of blood heat; and it should be continued long, and when removed the part should be dried or covered, or cold may be taken, and the inflammation increased instead of diminished. Anodyne fomentations are made of poppy heads, and of tobacco, and are frequently of great use.

The method of applying fomentations is conveniently done by means of two large woollen cloths wrung out of the heated liquors; as one is cooling the other should be ready to be applied.

Poultices

Act in the same way as fomentations in allaying

irritation and inflammation; but are in some respects more convenient, because they act continually. It is an error to suppose that poultices, to be beneficial, should be very hot: however hot they may be applied, they soon become of the temperature of the surrounding parts. When poultices are applied to the extremities, a stocking, as has been before stated, is a convenient method of application. When it is drawn over the leg and bound around the lower part of the hoof, or of the pastern, or otherwise, the matter of the poultice may be put within, and it may be then kept in its situation, if high up on the extremity, by means of tape fastened to one part of it, and passed over the withers or back to the other side, and again fastened to the stocking. In this way, also, loose bandages may be retained from slipping down. Cold poultices are often useful in the inflammations arising from strains, &c. In these cases bran and goulard water form a convenient medium; but when the poultice is necessarily hot, a little linseed meal added to the bran will render it adhesive, and give it consistence. It is a very necessary caution in this, as in every instance where bandages are wanted around the extremities, to have them broad and only so tight as to secure the matters contained, as in a poultice, or as in common bandaging. It is often supposed that "as strong as a horse," denotes that nothing can be two strong for him, nor any means too violent to hurt him. The horse on the contrary, is one of the most tender animals alive; and a string tied very tight around the le
would occasion, first a falling off of the hoof, ne
a mortification of the rest of the limb, and last
the death of the animal; and all this as certai

as though he were shot with a bullet through the head.

Setons

Are often used in keeping up a drain to draw what are termed humors from parts; or by their irritations on one part, they lessen the inflammation in another part not very remote, as when applied in the cheek for ophthalmia or inflamed eyes. They also in the same way lesson old swellings by exciting absorption. Another useful action they have is to make a dependent or convenient orifice for the escape of lodged matter: thus a seton passed from the upper part of the opening of pole evil, through the upper part of the integuments of the neck, as low as the sinuses run, will often effect a cure without farther application. The same with fistulous withers, which sometimes run under the shoulder blade, and appear at the arm point; in which case a blunt seton needle, of sufficient length to be passed down to that point, and to be then cut down upon, will form the only efficient mode of treatment. Setons may be passed in domestic farriery, with a common packing needle, and a skein of thread, or piece of tape: but in professional farriery they are made by a proper needle armed with tape or lamp cotton, or skains of thread or silk smeared over with digestive ointment. When the seton needle is removed, the ends of the tape should be joined together, or otherwise knotted, to prevent them from coming out.

Rowels

In their intention act as setons, and as irritating a larger surface, so when a general drain is required they act better; as in grease, &c. but when their action is confined to a part only, setons are more convenient. Any person may apply a rowel by making an incision in the loose skin about an inch, separating with the finger its adherences around, and then inserting in the opening a piece of round leather with a hole in the middle smeared with a blistering ointment. Then plug the opening with tow, and in three days, when the supperation has begun, remove it. The rowel leather is afterwards to be daily moved and cleaned.

Recipes.

Astringent mixtures for Diarrhæa, lax or scouring.

1. Powdered ipecacuanha, one drachm. Do. opium, half a drachm. Prepared chalk, two ounces. Boiled starch, one pint.

2. Suet, four ounces, boiled in milck, eight ounces. Boiled starch, six ounces. Powdered alum, one drachm.

The following has been very strongly recommended in some cases, for the lax of horses and cattle.

3. Glauber's salts, 2 ounces. Epsom do. one ounce. Green vitriol half a pint.

When the lax or scouring at all approaches to dysentery or molton grease, the following drink should be first given.

4. Castor oil, 4 ounces. Glauber's salts, (dissolved) two ounces. Powdered rhubarb, half a drachm. Powdered opium, four grains. Gruel, one pint.

Astringent Pasts, for Thrush, Foot-rot, Foul in the foot, &c.

Prepared calamine, verdigris, of each half an ounce. White vitriol, alum, of each half a drachm. Tar, three ounces, mix.

Astringent washes for cracks in the heels, wounds, &c.

1. Sugar of lead, two drachms. White vitriol, one drachm. Strong infusion of oak, or elm bark, one pint, mix.

2. Green Vitriol, one drachm. Infusion of galls, half a pint. Mix and wash the parts three times a day.

Clyster for gripes.

Marsh two moderate sized onions, pour over them oil of turpentine, two ounces. Capsicum, or pepper, half an ounce. Thin gruel, four quarts.

Cronic cough balls.

Calomel, one scruple. Gum ammoniacum, horse radish, of each two drachms. Balsam of Tolu, squills, each one drachm. Beat all together, and make into a ball with honey, and give every morning fasting.

Diuretic balls.

Resin, yellow, one pound. Nitre, half a pound. Yellow soap, quarter of a pound. Melt the resin, soap, and turpentine over a slow fire; when cooling, add the nitre. For a strong dose, an ounce and a half, for a mild one an ounce. It should be kept in mind, that mild diuretics are always equal to what is required; and that strong diuretics are always hurtful.

Urine drink.

Glauber's salts, two ounces. Nitre, six drachms. Dissolve in a pint of water.

For strains.

Bay salt, bruised, half a pound. Crude sal ammoniac, two ounces. Sugar of lead, quarter of an ounce. Vinegar, one pint and a half. Water one pint.

For the eyes.

1. Sugar of lead, one drachm. White vitriol, two scruples. Water, one pint

2. Brandy, one ounce. Infusion of green tea, four ounces. Tincture of opium, two drachms. Infusion of red roses, 4 ounces.

3. Rose water, six ounces. Mindererus spirit, three ounces.

4. Corrosive sublimate, 4 grs. Alkahol, one ounce. Lime water, one pint.

5. Alum, powdered, one dr'm. Calomel, half a drachm. Mix, and insert a little at one corner of the eye. The custom of blowing it in alarms the horse.

Hoof liquid.

Oil of turpentine, four ounces. Tar, four ounces. Whale oil, eight ounces. This softens and toughens the hoofs extremely, when brushed over them night and morning.

Liquid purge.

Epsom salts, dissolved, eight ounces. Caster oil, four ounces. Watery tincture of aloes, eight ounces. Mix. The watery tincture of aloes is made by beating powdered aloes with the yolk of egg, adding water by degrees; by these means half an ounce of aloes may be suspended in eight ounces of water; and such a purge is useful when a ball cannot be got down, as in partial locked jaw.

Scalding mixture for poll evil.

Corrosive sublimate, finely powdered, one drachm. Yellow basilicon, four ounces.

Foot stoppings.

Horse and cow dung, each about two pounds. Tar, half a pound.

Ointment for healing.

Turner's cerate four ounces. White vitriol powdered, half a drachm. Lard, four ounces.

Remarks.

A knowledge of the diseases of animals in general, cannot be inferred from a knowledge of the diseases of any one particular species of animals.

Thus he who is acquainted with the diseases of the horse, would not from that circumstance be able to prescribe correctly for the diseases of quadrupeds generally. The anatomy and physiol ogy of animals differ. For example, the dog has no insensible perspiration. The mouth of the horse performs but one office, that of conveying food to the stomach. It conveys nothing to the lungs or from them. It has nothing to do with the modulation of his voice, as in most quadrupeds and in man. The passages to the lungs and to the stomach in the *horse* are distinct.

The horse unlike most other quadrupeds has no gall-bladder, notwithstanding a work which has been through *twelve* editions, and one at least in this country, (Taplin's Farriery) gives a particular description of the diseases of the gall-bladder, and the *symptoms* of *those* diseases.

It has been stated above, that the anatomy and physiology of animals differ, so also do their diseases.

The horse is not subject to fever, i. e. he has no simple, idiophatic fever, no cold, hot and sweating stage, as man has. The feverish action, which the heart and arteries of the horse sometimes assume is sympathetic, and is always preceded by some local affection. It is a disease of irritation.

The eyes of the horse are subject to a species of cataract, that affects no other animal. It arises from a constitutional disease, brought on by bad stabling. It is never produced by local injury. This species of cataract commences with an inflammation of the conjunctiva, without any apparent cause. Local applications have no effect in removing it. The only rational method of treating it is to remove, if possible, the constitutional disease and improve the health and condition of the animal.

Oxen and cows have the disease called bots in their skin, but in the horse this disease (if it may be so called) is confined to the stomach.

Farcy and glanders, I believe, are diseases peculiar to the horse. I know of no other animal subject to them. They are contagious diseases, but may be produced without contagion, by bad stabling. The poisonous matter of farcy will produce glanders, and *vice versa.* Farcy is now ascertained to be a disease of the superficial absorbents; whereas in all the old books on the veterinary art, it is represented as a disease of the veins.

A horse glandered has the whole mass of blood contaminated. This may be considered by medical gentlemen as an important fact, as it goes to prove the doctrine of humoral pathology. That the whole mass of blood is diseased in a horse affected with glanders has been proved by the following experiment made by Mr. Coleman, Professor at the Veterinary Institution, England. He took a young healthy ass, an animal, as he states, peculiarly susceptible of the disease, and introduced a pipe having a stop cock into the jugular vein, united by means of an ureter to another pipe, which he introduced into the carotid artery of a glandered horse. He then bled the ass to death, by opening his carotid artery, and turning the stop cock, admitted the blood of the horse into his vessels, and resuscitated him. The result was that the ass became violently glandered. He inoculated other asses from the matter produced in him, and was able to carry on the same disease.

Corns in the feet of horses are very unlike corns on the feet of the human subject. There is nothing that grows on the feet of horses that constitutes corns. There is no increase of substance

Corns in the feet of horses are mere bruises. Every body has seen or experienced the effects of bruises upon the human nail. Corns in the feet of horses are injuries of a similar nature. The red appearance which they have is caused by an extravasation of blood which spreads itself among the fibres of the horny hoof. Corns are generally occasioned by the shoe. They may, however, arise from other injuries. They are easily cured by suitable remedies and a proper mode of shoeing, unless the inflammation occasioned by the injury has been of long standing and assumed a chronic character. In this case the cure is more tedious.

Horse ail.—I will take this opportunity to make a few remarks on the nature of this complaint.

Strictly speaking, all diseases of horses are *horse ails;* but custom has given this epithet to a species of disease very common among our horses. The disease referred to, is called strangles in most of the old books on Farriery. It consists in an inflammation of the membrane lining the nose and the arytenoid cartilages. This disease is accompanied by a cough and a discharge from the nostrils. The cough is sympathetic, and is produced by the extreme sensibility of the membrane thus inflamed. The lightest dust, or even a drop of water lodged upon this membrane, in this irritable state, produces coughing. The inflammation sometimes extends to the lungs, and then this disease is accompanied with a disease of the chest, and requires speedy and energetic treatment, as inflammation of the lungs *in the horse* is apt to terminate speedily in gangrene. Copious bleeding, from six to ten quarts at first and smaller bleedings afterwards, as the state of the case may require, and small doses of aloes from one to two drachms, given daily, have been found the most successful remedies in inflammation of the lungs. Drastic purgatives should be avoided, as they increase the irritation, and put the life of the horse in extreme hazard.

It has been stated above, that the diseases of animals differ as much as their anatomy and physiology. The specific effect of medicine upon different animals is no less various than their structure and diseases.

Glauber's salts in doses of one pound operate on the *ox* as a cathartic, but on the *horse* they operate as a diuretic. Castor oil does not operate on the horse as a purgative, any more than train oil or any other oil.

Opium does not produce its specific effect upon the horse. It operates merely as an astringent. It has no anodyne effect, as it has upon man. It will not mitigate pain. It is unfortunate that most writers on the veterinacy art have copied from each other, and have recommended medicines for the horse which are known to be useful to men. Thus calomel, rhubarb and colocynth, have been recommended as purgatives for horses, whereas they are now known to have no such affect on that animal.

Bark produces no sensible effect upon the horse.

There are no medicines that operate on the horse as ipecacuanha and tartar emetic do upon the human subject.

Tartar emetic in doses of four ounces will sometimes occasion a little nausea and purging, but in smaller doses it has no sensible effect. No proparation of mercury will produce salivation in the horse. His gums may be made sore by mercury, but ptyalism cannot be produced by it.

Sugar of lead which is known to be a most deadly poison to man, the horse can take without injury. Tobacco has no deleterious effect upon the horse.

Hellebore in doses of half a drachm produces a tendency to nausea in the horse. Hemlock is good food for goats, but a deadly poison to man; and wheat, the natural food for man, is poison to the horse. Spirit of turpentine, which an infant may handle without injury, operates as caustic when applied to the skin of a horse, although it may be applied to sores and fungous flesh on that animal without producing pain.

CATTLE.

As soon as a calf is weaned, it should either be permitted to run in the best pasture, or confined in the barn, and fed by hand, and be carefully fended and kept warm, and live upon the best fodder through the first winter. Afterwards it will become so hardy it will require less care. But cattle should be frequently looked to and examined; that so if they be overtaken with any sickness, hurt, or lameness, suitable remedies may be seasonably applied. And in order to do this, they should be accustomed to come home, and be shut up in the yard every night. By this method, a farmer will save a much large quantity of dung. And in case of an uncommonly cold storm, the cattle may be housed with very little trouble, as the yard is contiguous to their house.

Cattle, from one year old to three, will usually get a living in summer, and even thrive, upon the commons, or in the meanest, and most bushy pastures. And in winter the poorest fodder will keep them alive. And as our farmers know these things, they are very apt to treat their young cattle in this manner. Those which are so treated, may oftentimes become as hardy cattle as any; but they will be small, and therefore not so profitable. Farmers in general are too ambitious to keep a large stock of cattle: A necessary consequence of which is, that they are pinched in their food, and never come to their full growth. Another ill conseqence is, their growing unruly and mischievous through hunger, learning to leap over fences, or break through them.

It would certainly be more conducive to the interest of farmers, to keep smaller stocks of cattle than they do; for then they would be able to feed them to the full. Their oxen would be much larger and stronger than they are, and their cows would give plenty of milk, and bring large calves; not to say how much they would save in taxes, by reducing their number of rateable cattle.

Farmers should allow their young stock the best of pasture. This would keep them out of mischief, prevent their learning bad tricks, and prevent many ill accidents which befal them. And it would be no small advantage always to know where to find them. But, in the common method of treating them, it is too common a case for them to straggle so far from home, that the owner entirely looses them; or else spends as much time as they are worth, in seeking after them.

If a young stock were well fed at all seasons.

the heifers would commonly have calves at two years old, which is no small advantage, and steers would be fit for labour earlier in proportion. And when they come to be killed off, the quantity of beef would make amends for their being so fed as to be well grown. If the farmer's view in increasing his stock, be to make as much dung as possible, he should be reminded of what he ought to know already, that the dung of a small stock would be equal to that of a large one, if it consume the same quantity of fodder. If a farmer make this objection to pasturing his young flock, that his farm is not large enough to admit of it; he may find an answer by turning to the article, *Mowing Ground*, where diminishing their number of acres, and increasing that of pasture ground, is recommended, and sufficient reasons assigned.

In the winter cattle should be housed, to defend them from the inclemencies of the weather. For though nature furnishes them with a thicker covering of hair in the winter than in the summer, the difference is not near so great as that of the weather in this climate. Working oxen and milch cows will suffer more than the rest by lying abroad. If the farmer cannot conveniently house all his cattle, those should be left out which are between the age of one and three years. And those that lie out should have a shed, open only to the south and west, to shelter themselves under in stormy weather.

The injuries which cattle receive from each other, when they are lodged together in a yard, is an additional reason for tying them up in the barn. To which it may be added, that a great part of the fodder that is given them is wasted, even when it is given them in racks; much more when it is thrown upon the ground. They trample it into the dung with their feet, which is no inconsiderable loss.

Cattle will bear to be cold much better than to be wet. If they be left out in a cold storm of rain, it pinches them exceedingly; so that they will not look so well again for several days after it. The sides of the house where they are lodged, need not be very tight. It might be apt to make them too tender. It will certainly abate the freshness of the air they breath in, and taint the agreeable flavor of their fodder. But the covering of their house should be perfectly tight. No window should be open, through which snow or rain may drive in upon them. The floor they lie on should have a gentle descent backward that they may be wetted as little as possible by their stale; and they should always have straw or litter under them, not only to soften their lodging, but to lay them the more warm and dry, and absorb the wetness. The better they are littered, the more manure will the owner make for his farm. This is an object of high importance.

It would be a good method for cattle that are tied up, to fodder them in racks. They would not be so apt to rob one another; nor to get their fodder under their feet; nor to render it unpalatable by their breathing upon it.

Where salt hay can be had, cattle should now and then be treated with a little of it. It will so increase their appetite, that they will eat poor meadow hay, and straw with it, or after it. But farmers who are far from the sea, and not furnished with salt hay, should now and then sprinkle some of their meanest fodder with salt dissolved in water, which will answer the same valuable purpose. And at no season of the year should cattle be kept for any long time, without salt. They are greedy after, and it conduces to keep them in health.

As to summer feeding, it is not fit that a whole stock go promiscuously in the same pasture. Some would be overmuch fed, and some not enough. A farmer's pasture grounds should be made into a number of separate enclosures; the greater number the better. Milch kine and cattle fattening for slaughter should have the first of the feed in each inclosure; then working oxen; afterwards young stock, horses and sheep. When each kind have had their turn, for two or three days or perhaps a week, the apartment may be shut up, till it be sufficiently grown for the milch cows. By such a rotation much may be saved; but little of the grass will be wasted by trampling; and what one sort leaves another will eat; so that none of the grass will be lost.

Oxen should not live to be more than eight years old, nor cows more than ten or eleven. When they are kept longer, they do not fatten so easily; and the beef is not so good. Cattle to be fattened should have the best of pasture during the whole grass season, or they will not be fat so early as December; and they should lose a little blood, when they are first turned to grass. In autumn, when grass grows short, or is corrupted by frosts, their fattening should be promoted by feeding them morning and evening with the stalks of Indian corn, pumpions, potatoes, or carrots; and especially with ears of corn, if the owner can afford it. Indian meal is supposed to be still better to complete their fattening. Oil cakes from linseed mills are much recommended in English books, as conducing to the speedy fattening of cattle.

Cattle are apt to be *hoven* or *swollen* in consequence of having eaten too much green succulent food. The common remedy for this disorder has been to stab the infected amimal with a pen knife or other sharp instrument, under the short rids, and put into the orifice a tube of ivory, elder, a quill, or something of the kind, to give vent to the confined air. The wound is then dressed with some sort of adhesive plaster, and thus, in general the cure is easily effected.—This, however, is a rough and dangerous remedy, and we therefore give place to others more safe and gentle.

The 33d volume of the Annals of Agriculture announces the following recipe for hoven cattle, which it assures us will effect a cure for hoven cattle, in the most desperate cases in half an hour. Take three quarters of a pint of olive oil; one pint of melted butter, or hog's lard; give this mixture by means of a horn or bottle, and if it does not produce a favourable change in a quarter of an hour, repeat the same quantity, and walk the animal gently about. For sheep, attacked with this malady the dose is from a wine-glass and a half to two glasses.

Besides these remedies, flexible tubes, and canes, with knobs at their ends, have been used to force a passage from the mouth to the stomach, to let the confined air escape upwards from the trunk of the animal affected. Descriptions of these instruments may be seen in the second American edition of the Domestic Encyclopædia, volume I. p. 409, 410. The following simple remedy we have been assured is effectual. Make about a pint of lie either with hot embers thrown into a sufficient quantity, of water, or by dissolving therein about an ounce of pot or pearl ash, and turn it down the throat of the ox or cow affected. A proportionably less quantity will answer for a sheep. This is said to give immediate relief by neutralizing the carbonic acid gas in the stomach of the creature, which causes the swelling, and other symptoms of the complaint to subside.

When oxen are long and hardly driven, in muddy roads, particularly where the soil is calcareous, they are lialbe to soreness between the claws. This will make the beast lame, and when discovered, the part should be cleansed, and healed with some proper ointment. Sometimes from inattention to this, the part decomes horny; in this case the hard parts must be cut away, and the wounded flesh cured.

A general indication of health in neat cattle is a moist or wet nose, and when this is found dry it is a certain symptom of disease of some kind or other.

Symptoms. When an animal is at all lame, its foot should be carefully felt. The first indication is usually an uncommon degree of warmth, and a soft and puffed feel of the parts immediately connected with the slit between the hoof, either before or behind the foot and generally just above it. If in the hind foot, and not easily handled, a fullness may generally be perceived, by standing behind the animal and carefully comparing the appearance of the two feet, between the dew claws and the hoofs (for it very rarely commences its attack in more than *one* foot.) In the fore foot it generally swells forward; and in taking up the foot, the slit between the hoofs will have an appearance of dryness, easily distinguishable to a person used to cattle; and the animal frequently licks the front part of the foot. Instances often occur of sudden and extreme lameness, without any appearance of heat or swelling in the foot; and these are often the worst cases; but one symptom rarely fails to accompany the disease, which is extreme restlessness and appearance of anguish, attended with loss of appetite and flesh; but without in the least affecting the brightness of the eye, and, perhaps, sometimes, unnaturally increasing it; but the eye has a peculiar cast. As a general rule it is safest to attribute all lameness of the foot, which cannot be traced to a sufficient cause, to the hoof ail. Lameness of the foot can generally be distinguished from that of the leg, hip or shoulder, by making the animal step over a stick or rail, and carefully watching its motions.

Remedies. The foot should be carefully washed and cleansed, and thoroughly examined, to be sure that the lameness does not arise from a nail casually run into the foot, or a prick in shoeing, or from a wound from a stump or other substance between the hoofs (a case frequently occuring.) If no appearance occurs of any break in the skin, while the foot is still wet, apply, as nearly as may be, to the centre of the slit, between the hoofs from one to three grains of corrosive sublimate (reduced to a fine powder) the dose to be proportioned to the size of the animal and the violence of the attack Care must be used that the powder is put completely in this slit, for it is very strong poison, and the animal, as soon as at liberty, will begin to lick the the foot, if a sore one. The moisture left by the washing, makes the powder adhere; and the effect is produced in a very short time. Some prefer mixing the powder with hog's lard, which answers; but it is thought less powerful: it has one advantage, however, as being less dangerous to keep in a house (for no one takes salve inwardly.) Where corrosive sublimate cannot be obtained, any other violent stimulent may be applied. Common salt is often effectual in very slight attacks; but it is of the greatest importance to lose no time. The application is to be repeated every twenty-four hours, till a cure is effected, or till the foot shews unequivocal signs of a gathering which will break.

Inflammatory Fever, or general inflammation; called also Quarter Evil, Black Quarter, or Spud.

This disease frequently happens to young cattle, generally between the first and third year, most commonly about the second year of their age. It appears to be occasioned by feeding them too hastily; by putting them, when in a lean state, into rich succulent pasture.

The animal when seized with this complaint, becomes suddenly listless and stupid; he hangs down his head, refuses his food, and appear to move with difficulty. Swellings soon appear in different parts of the body, which, when pressed by the finger, make a crackling noise. Sometimes the joints are particularly affected; at others, the swelling appears on the back, shoulder or belly.

The disease attacks rather suddenly, and often proves fatal, particularly when proper remedies are not speedily employed. Bleeding is the first remedy, and must be proportioned to the age and strength of the animal; perhaps from three to four quarts will generally be found sufficient. The blood should always be measured. The following purgative should then be given.

Aloes	3dr.
Potash	2dr.
Sulphat of Soda [Glauber's Salts]	6oz.
Warm Water	1pt.

Mix for a dose.

This dose will generally be found sufficient for an animal of two year's old. Should the disease occur in situations, where these medicines cannot be procured, give from four to six ounces of common salt in a pint of water; the addition of four ounces of castor oil, sweet oil, or even linseed oil; will make it more efficacious. Should the animal be relieved, by this treatment, considerable weakness may follow: for which give the following twice a day:

Powdered Caraway seeds,	1oz.
Ginger	2dr.

To be given in a pint of oat-meal gruel [or any other gruel] or ale.

The swollen parts, particularly if the joints are affected, should be rubbed with the following linament:

Take of linseed oil	4 oz.
Oil of turpentine	2 oz.
Liquid ammonia, or spirits of sal ammoniac	1 oz

Mix.

Mr. Lawrence has very properly advised that a piece of short or inferior keep should be reserved, as a digesting place, where cattle may occasionally be turned, to empty and exercise themselves.— This is better than bleeding, or any medical preventive; and as this disease frequently proves fatal, preventive measures should never be lost sight of.

Murrain or Pest.

These terms correspond with that of plague in the human species, (and the diseases are said to have a similar origin, to wit, in putrid miasmata,) and like the plague is attended with boils or buboes. The plague of horned cattle is said to be of a peculiar nature, and not communicable to other animals. Yet in a contagious disposition of the air, it may chance that various species of animals may be affected at the same time. The infection is first denoted by a decrease of appetite, difficulty of swallowing, shaking the head, hanging down of the ears, and dulness of the eyes. Constant diarrhœa, or scouring, fœtid breath, nauseous steams from the skin, infecting the surrounding air. The blood is florid, hot, and frothy, and the urine high coloured. Roof of the mouth ulcerated. Tumours or biles are felt under the fleshy membrane of the skin; eruptions all along the limbs, and about the bags of the cows. Milk dries up suddenly. The animals groan much, and are worse towards evening, mostly lying down. These symptoms continue increasing until the seventh day, in which, generally, although sometimes protracted to the ninth, the crisis or turn takes place.

Dr. Darwin proposes, when this distemper makes its appearance, to slaughter all the cattle within five miles of the infected place, which appears to be a very harsh mode of proceeding; and although "death's a cure that never fails," such a remedy is commonly thought to be as bad as the disease. Mr. Lawrence advises, on the appearance of the distemper, to place the whole herd under the best shelter that circumstances will allow; to separate those which are in the most advanced stage of the disease, and slaughter such as good judges shall deem to be in a state too dangerous for any attempt to cure, and bury them pretty deep in the ground. In a disease so highly putrid, bleeding should be moderate, yet in the beginning, he thinks it will be necessary, as also setons and rowels. "If costiveness prevail, the body must be kept open by clysters, or the most moderate purges but a scowering is the most usual symptom. The sick-house must be sufficiently airy, yet well defended from wet and cold. Acid fumigations will purify the atmosphere of the house, and probably the fumes being inhaled by the beasts will have a favorable effect."

The *emphysema*, windy abcess, or puffing up of the hide, filled with a thin putrid matter, and foul air, which nature furnishes in the last stage, as a mean of throwing off the disease, must be opened at full length, wherever situated, and the matter discharged. The cavity to be filled with pledgets of tow, dipped in tincture of myrrh, or of an ointment composed of powdered turpentine and yolk of eggs. Poultices of oatmeal, stale beer, &c. may be necessary to bring the ulcers to a proper digestion. Nitre has, of late, been successfully used in gangrenous ulcers, the cavities being filled with it. The approach of mortification is indicated by the dark and flabby appearance of the inside of the mouth, coldness, insensibility, blackness and an ill scent of the dung, sanious and foul discharge from the mouth and nose, and dullness of the eyes. On the return of health, mild, cleansing purges will be necessary, but the danger of mortification must be fairly passd. The recovered beast must not be suddenly exposed to the air, but only turned out a few hours in the middle of the day, particularly throughout winter. Sudden exposure has subjected many convalescents to a vertigo of giddiness, and consumption.

M. Sauvages, the celebrated profesor of Medicine at Montpelier. was an acurate observer of this disorder, when it raged with great violence in many parts of Europe. He calculated that of twenty who were attacked by it nineteen died; that no certain remedy had been discovered, or any effectual mode of preventive, except separating the healthy from the sick; he recommends, however, bleeding and purging at the commencement of the disorder, with setons in the dewlap. After the operation of the purgative, he considers opiates, aromatics, &c. such as caraway seeds, ginger, cascarilla, &c, as the most proper medicine.

A writer in the Gentleman's Magazine, quoted with approbation, by Dr. W. Peck, a late learned and judicious writer on veterinary medicine gives the following directions to prevent and cure the disease.

First. Avoid infection with the utmost diligence. *Secondly.* Trust to none of the celebrated remedies that may be proposed to you, unless founded on experience; most that have been offered by farriers are known to be ineffectual, and many of them extremely injurious. *Thirdly.* If your cattle are attacked, bleed plentifully, repeatedly, and keep their bodies open. *Fourthly.* Give them no nry food from the commencement of the attack till the fever abates; let their mashes be thin, given warm, and very often, a little at once; keep them dry and warm. *Fifthly.* Give no warm spicy drenches, at the commencement of the disease.

Catarrh, or *Cold; Epidemical Cold; Distemper.*

Colds are very common, particularly in wet or cold weather; and though they are often thought of too little importance to require particular attention, yet, by neglecting them, and suffering the animal to continue exposed to the weather, the most serious consequences may ensue. From such neglect we often find that the animal decays in flesh and strength, becomes hide bound, and has a rough staring coat; at length tubercles form in the lungs, the mesenteric glands become enlarged, obstructing the passage by which nutriment is conveyed to the blood: this is succeeded by atrophy, consumption and death. It is highly important, therefore, to attend to this disorder as soon as it is discovered; and it is asserted that more good may be done by nursing, placing the animal in a warm situation, giving him warm nourishing fluids, such as gruel, infusion of malt, &c. than from any medical prescriptions.

Colds are, at some seasons, so prevalent, as to be considered epidemic and infectious. On such occasions they generally occur with great violence, and are accompanied by fever, and soon after the attack, by considerable debility.

On the first attack, the animal appears dull and languid; the eyes are watery, and sometimes partially closed; the appetite is diminished; and most commonly, it is attended with cough. Swellings under or below the ears, difficulty in swallowing, and a discharge from the nostrils are not unusual symptoms of the complaint. When catarrh prevails to this degree, it is generally named *influenza* or *distemper*, and has been thought contagious but this opinion has not been proved to be true.

With respect to the treatment of this disease Dr. White observes that the hot stimulating drenches commonly recommended, are decidedly improper Bleeding at the commencement of colds is generally proper; the only circumstance which indicates its impropriety, is considerable weakness and low condition. The quantity of blood taken should seldom exceed two quarts. If the animal is costive, give a laxative drink; but if he purges or scours, give the following powder in gruel:

Powdered ginger	3 dr
Antimonial powder	2 dr
Camphor	1 1-2dr
Tincture of opium	1-2 oz.

To be repeated after eight or ten hours, should it be necessary. If there is any difficulty in swallowing, and particularly if it be considerable, the following linament should be rubbed about the throat:

Take of oil of turpentine and any common oil, of each - - -	1 oz.
Liquid ammonia, commonly called spirits of sal ammoniac - - -	½ oz.

Mix.

In common colds, however, says Dr. white, "I am inclined to believe that if the animal were placed in a comfortable situation, and well attended to, medicine would be unnecessary. Even bleeding, in common slight colds, is seldom required; but should the animal, by a change of situation, become hot and feverish, should the eyes look red and the flanks move quickly, he should be bled freely;

and if in any degree costive, the laxative [hereafter mentioned] should be given. When there are no feverish symptoms present the laxative should be mixed with some cordial medicine, such as an ounce of caraway seeds, and three or four drachms of ginger.

When the influenza, or distemper, has not been attended to, or has been improperly treated, at an early period, the animal becomes extremely weak, and every means must be employed to recruit his strength. On such occasions a tonic, [such as the first mentioned prescription] may be given twice or three times a day, which in conjunction with a warm nourishing diet, and careful attendance, may ultimately effect a recovery.

If the animal should become costive, a mild laxative will be proper; about half a dose will be sufficient. If grass can be conveniently procured, when the animal is kept under cover a moderate quantity will be useful. In favorable weather, the field is the best place; but a shelter and warm situation should be chosen.

Laxative.

Sulphate of soda (glauber's salts)	1 lb.
Gruel	1 qt.
Powdered caraway seeds	1 oz.

Mix for one dose.

Whenever the disease appears to be epidemic, preventive means should be adopted, which is more particularly necessary when rain and cold winds prevail. Catarrh or cold is often an insidious complaint, and, if neglected, may produce very serious consequences.

Whenever caraway or any of the aromatic seeds are employed, they should not be purchased in powder, as they do not keep well in this form.

Mr. Lawrence observes that "the influenza or epidemic cold arises from frequent changes of the air, and the prevalence of north-east and easterly winds. As a great number, whether of men or animals, may be seized with this species of catarrh, at the same time and for the same cause, it has been supposed contagious, which indeed, may probably be the case in its inveterate and putrid state. This disorder is most prevalent in the spring, which succeeds a mild winter, when particular care should be taken that cattle are not exposed to currents of air from the north-east. I have known a whole fold-yard of oxen, horses and cows, dangerously affected in one night."

Mr. Lawrence advises "if the animal shivers with cold, and has cold breath, give a quart of warm ale, (beer or warm water would answer probably as well,) in which is infused a table spoonful of grated ginger, two of spirit of hartshorn, and one of laudanum, repeating it in six hours, if the chilly symptoms continue, allowing warm water and a deep bed of straw. If feverish heat comes on, give nitre in warm water: when fever becomes predominant, bleed two quarts, unless the animal be a milch cow, which never ought to be bled but in extreme necessity, and one ounce of cream of tartar, in three pints of warm gruel, sweetened with honey or treacle, [molasses.] On recovery of the beast, accustom it to the air by degrees, and notwithstanding having been nursed in the house, it will again become equally hardy as before."

Peripneumony, Pleurisy, or Inflammation of the lungs.

This disease most commonly occurs to working cattle from over exertion, or from being suffered to drink largely of cold water, immediately after working hard, and when in a state of perspiration. Its symptoms are shivering, loss of appetite, an appearance of anxiety or depression, an increased motion of the flanks, or quickness of breathing, cough, opening the mouth, a discharge from the mouth and nose of a glutinous nature, the inside of the nose red, eyes dull, pulse hard, mouth harsh and dry, skin stiff, cold extremities, body full as if swelled with herbage, holds its head low and moves with difficulty, costive, on lifting the upper eyelid its under surface will be found unusually red, sometimes approaching to orange. If the disease happens to a milch cow, she soon looses her milk, and the ears, legs, and horns are generally cold.

Dr. White says, " early bleeding is the grand specific in this complaint; but it must not be done sparingly. A cow or ox in tolerable condition, may lose from four to six quarts with advantage ; and, if the symptoms do not abate in four or six hours, the operation should be repeated, to the extent of three or four quarts, unless the animal faint; whenever this occurs, on any occasion, the bleeding of course must be stopped. Faintness, however, when the disease is really inflammation of the lungs, is by no means an unfavorable effect of bleeding; it is proof that the operation has been carried to its full extent, and a recovery is most likely to happen. A large seton should be put in the dewlap, and moistened with oil of turpentine; and the sides should be well rubbed with the following embrocation:

Take of flower of mustard	4 oz.
Oil of turoentine	2 oz.

Water of ammonia	2 oz.

The whole to be mixed with as much water as will bring it to the consistence of cream.

Immediately after bleeding, give the following drink:

Take of camphor	2 dr.
Nitre	1 1-2 oz.
Powdered caraway seeds	1 oz.

To be given in a pint of gruel.

" Should the animal be costive, a clyster should be administered, consisting of about three or four quarts of warm water, and half a pound of common salt. A pint of caster oil, also, may be added to the above drink; if this cannot be procured, sweet oil, linseed oil, or even melted lard may be substituted.

" It is a bad plan to take only a small quantity of blood daily, or every other day as has been advised; for though it may sometimes retard the progress of inflammation, yet the animal will eventually be destroyed by it. Stimulating or heating medicines are highly pernicious.

" Inflammation of the lungs is a term, that has unfortunately been too often applied to diseases of a different kind; and it is from this error perhaps, that strong stimulating medicines have been recommended on such occasions. There is an affection of the lungs and parts connected with them, which will not admit of the copious bleeding I have recommended; but the symptoms are widely different. There is not that difficulty and quickness in breathing; the pulse is weak but not much quicker than usual; the kernels or glands about the throat are often swollen; sometimes there is considerable difficulty of swallowing, which is particularly seen when the animal attempts to drink; in short this is nothing more than a severe degree of catarrh or cold; but, even in this complaint, moderate bleeding is necessary, and powerful stimulants are extremely pernicious.—When the disease, however, has not been discovered for some days, and the animal appears much weakened by it, bleeding is of course improper."

Inflammation of the stomach.

"The complicated structure of this organ, in ruminating animals, renders it peculiarly liable to disease; inflammation, however, does not appear to occur frequently as a primary disorder, but is more commonly a consequence of some offensive matter lodged in one of the four stomachs, or from the animal's feeding so greedily, as to weaken the organ, and prevent its performing its functions. In either of these cases, the principal object is to get rid of the offensive matter, by envigorating the weakened stomach, and enabling it to expel the matter by which it is oppressed. Should inflammation attack the stomach, independently of this cause, that is, without any hurtful matter having been swallowed, or any improper accumulation of food, the principal remedies would be plentiful bleeding and abstinence from food.—*White's treatise on veterinary medicine.*

Dr. Peck says that the symptoms of this disorder are violent pain in the stomach; large blisters rise sometimes on the inside of the mouth; the animal is very restless, and appears to have the pain increased by every thing that is swallowed, which frequently brings a cough; the body feels clammy with sweat; difficulty of breathing.—

He attributes the cause to overloading the stomach; cold water; acid matter, or poisonous substances; not sufficient water in dry summers. The treatment recommended by this author is to bleed freely every day, if necessary; keep the body open with castor oil, &c. afterwards give febrifuges [such as glauber's salt, nitre, salt of tartar, spirits of nitrous ether] as in other cases of inflammation. When the animal is recovering, give it food sparingly, a little warm, such as scalding malt with warm water, &c.

Inflammation of the Bowels.

The principal symptom of this disease is a griping pain, which causes the animal to lie down frequently, and rise with difficulty. He frequently turns his head towards his belly, and endeavours to strike it with his hind foot; the body is full; the eyes dull; the pulse strong and quick. The quickness of the pulse forms a distinction between this complaint and the gripes, in which latter disorder, the pulse is sometimes hard, but seldom quickened. When the pain is violent, a copious perspiration takes place.—When proper remedies are not employed, the disease terminates in mortification and death. In the treatment of this complaint, the circumstances of the case must be carefully attended to. If the pulse is much quicker than natural, the under surface of the eyelid unusually red, and the breathing disturbed, let a large quantity of blood immediately be taken away, even five or six quarts; and then, unless the bowels are unusually open, give the following drink:

Sulphate of magnesia [epsom salts,]	8 oz.
Caster oil	1 pin

Gruel	1 pint.

Dissolve the salts in the gruel, and add to them the oil, for one dose.

The operation of this drink should be assisted by clysters. When all the above symptoms, however, are not observable; if the under surface of the eyelid is not redder than usual, or if it is rather pale; if the pulse is nearly in its natural state; and particularly if the animal is rather loose, or scours, the bleeding should be moderate; and if the animal be rather weak and in low condition, it had better be omitted. The following anodyne drink is to be given:

Tincture of opium	1-2 oz
Spirit of nitrous ether	2 oz.
Water	1 pint.

Mix for one dose.

When the animal has been kept sometime on dry food, and is apparently costive, relief can only be obtained by some laxative drink, like that first above mentioned, and clysters. Bleeding, however, must not be omitted, particularly if the pulse is quickened, the under surface of the eyelid redder than natural, and the breathing disturbed. If the laxative prove ineffectual in removing costiveness, it should be repeated.

Inflammation of the liver.

"The structure of this organ in horned cattle and sheep, is different from that of the horse; the latter has no gall bladder, but in the former there is one of considerable size. It is on this account, perhaps, that cattle are more subject to diseases of the liver than the horse. I do not believe that inflammation of the liver often occurs in so acute a form as to require bleeding largely; it is more commonly of a cronic or slow kind, causing a defective action in the organ, in consequence of which an unhealthy kind of bile is formed, which plugs up the ducts of the liver, and causes a derangement in the organs connected with it."—*White's Treatise.*

The symptoms of this disorder, according to Dr. Peck, are difficult breathing; swelling about the short ribs; pulse hard, full and frequent; thirst; yellowness of the eyes; costiveness, &c. Fat beasts are most subject to this complaint in hot weather, by being over heated in driving, or running about the pasture; by being exposed to severe cold, when hot. The treatment recommended by Dr. Peck, is to bleed according to the symptoms; give cathartics, [purges] clysters, febrifuges, &c.; Diet, mashes made of scalded bran and malt; blister the sides of the belly, and rowel underneath.

Inflammation of the kidneys.

The following are the symptoms of this disorder: —quick pulse, loss of appetite, the animal is frequently endeavoring to stale, and voids only a small quantity with much difficulty and pain; pressure on the loins gives pain, and causes the animal to shrink or give way to it; there is generally, considerable stiffness in the hind parts, observable when the animal attempts to walk: the urine is commonly of a dark red color. This disease is, however, very different, from that named red water, [to be treated of hereafter,] and unless properly treated at its commencement, often terminates fatally. Dr. Peck says, the symptoms that are of a favorable nature, are, urine high, or of a coffee color, discharged in large quantities; afterwards copious, thick, and mixed with mucus. The unfavorable are, sudden cessation of pain; urine dribbling away in small quantities, of a black and fetid colour and smell. the disorder is caused by violent blows across the loins, small stones or gravel being lodged within the kidnies; violent motion or hard driving in hot and sultry weather.

Let the animal be bled freely and take a pint of caster oil. If the dung is at all hard, or deficient in quantity, let clysters or warm water, with a little sweet oil, be employed. The liniment or embrocation, directed for inflammation of the lungs, [see page 91,] should be rubbed on the loins; after which, let them be well clothed, or covered with a fresh sheep or lamb's skin.

When the pain and difficulty, or rather the almost constant straining to stale continues, after the caster oil has operated, and the bowels have been sufficiently opened, an anodyne clyster may be administered, consisting of about one ounce and an half of tincture of opium, in one quart of gruel; or, from one drachm to two of crude opium, dissolved in warm water, and mixed with gruel.

If the animal is very thirsty, he should be restrained from drinking; and what he takes should be impregnated with some mucilaginous substance; an infusion of linseed, or decoction of marsh mallows is very proper.

Inflammation of the brain.

This disease is a kind of madness, attended with ravings and constant watchings; slow respiration: a strong pulsation in the temporal arteries, and sometime irregular; running at the nose; the animal appears in a very fierce state, as if seized with a turbulent kind of madness; the eyes appear much inflamed and ready to start from the orbits; the beast falls down of a sudden, and rises again with the same volatility, until nature is quite exhausted; a constant trembling and starting of the tendons; a dry and harsh skin; a suppression of the urine; grinding of the teeth and a total want of rest; these last are unfavorable symptoms.

The cause of this disorder is found in too great an efflux of blood pressing on the temporal arteries; from which an increased action takes place; wounds or contusions on the head; suppressions of the natural evacuations.

The cure should be sought by bleeding freely, according to the violence of the symptoms and the strength of the animal, in the jugular vein; keep the bowels open with caster oil, and other purging medicines. Blister the side of the neck with flies and spirits of turpentine.

From what has been said of the treatment of diseases, caused by inflammation of the internal organs of the body, it will be seen that they are all of a dangerous nature, and require the earliest attention; that they are generally the consequence of improper management or neglect, and may therefore, most commonly be prevented; and that the most essential remedy is *early* and copious bleeding, with laxative medicine.

Fog sickness, hoven or blown.

"We come now to treat of a class of diseases still more important, with respect to horned cattle, than the foregoing; that is, obstruction, or imperfect action, in the organs subservient to digestion. Under this head will be brought *Fog Sickness*, *Hoven*, *or Blown; Gripes, or Flatulent Colic ; Indigestion, loss of the Cud; and Jaundice, or Yellows.* These diseases, however, will be better understood, if we give in the first place, a short description of the cow's stomach. All animals, which ruminate, have more than one stomach: in the cow there are four; the first is considerably larger than the rest, lies on the left side, and is commonly called the paunch. The food, having been sfficiently macerated in this stomach is forced up gradually into the mouth, where it undergoes a complete mastication, which is termed chewing the cud. The food is then again swallowed, and conveyed to the second stomach, for the gullet opens indifferently into both. It ends exactly where the two stomachs meet; and there is a smooth gutter, with rising edges, which leads into the second stomach, and thence to the third and fourth: the animal however, has power to direct it into which it will. The second stomach is named bonnet, or king' s hood. Its internal surface consists of cells, resembling a honey-comb; where the food undergoes a farther maceration, and is then conveyed to the third stomach, called manyplies; because its internal surface rises up into many folds. Some of those folds are longer than others, and on their surface small glands may be seen, something like millet seed. From this it passes into the fourth or red stomach, commonly called the caul. This much resembles the human stomach, or that of the dog; only the inner folds are longer and looser.

Here the food is perfectly digested, and prepared for the nourishment of the animal. When cows or sheep are turned into a fresh pasture, of a different kind from that they had been accustomed to, they sometimes eat so greedily, that the stomach is incapable of contracting, or forcing back its contents into the mouth. When this happens, the food undergoes a kind of fermentation, in consequence of which a great deal of air is generated, and the paunch so excessively extended, that, if the animal is not relieved, it will either burst or destroy him by suffocation. An instrument has been invented by Mr. Eager, for giving vent to the confined air, which is very simple and appears to have answered the purpose completely. It consists of a cane six feet in length, with a round knob of wood, perfectly secured at one end. An assistant is to lay hold of the cow's horn with one hand, and the part which divides the nostrils with the other. The operator is to take the tongue in his left hand, and with his right he is to force the instrument down the gullet. As soon as it enters the paunch a great deal of air will rush out. The instrument may remain in the stomach, without injuring the animal, until the air is perfectly evacuated.

" It sometimes happens that the distention of the paunch takes place so suddenly, and in so dangerous a degree, that no time is allowed for using the instrument; in this case a sharp pointed pen-knife may be plunged into the paunch through the skin, by which the confined air will immediately escape. There is no difficulty or danger in the operation; nor is any other instrument required than a sharp pointed pen-knife. Should the opening be plugged up with the contents of the paunch, they may be removed, or the orifice kept open with a prode or feather. When all the air has escaped, let the wound be closed with any kind of sticking plaister, or pitch. This opening is to be made on the left side, between the haunch bone and the last rib."—*White's Treaties.*

Clayter, an English writer on Farriery, directs this lastmentioned operation to be performed in the following manner.

"Take a sharp pen-knife and gently introduce it into the paunch between the haunch bone and the last rib on the left side. This will instantly give vent to a large quantity of fœtid air; a small tube of a sufficient length may then be introduced into the wound,* and remain there until the air is sufficiently evacuated; afterwards take out the tube, and lay a pitch plaister over the orifice. Wounds of this kind are seldom attended with danger; when it has arisen, it has been occasioned by the injudicious operator introducing his knife into the wrong part. After the wind is expelled, and the body has been reduced to its natural state, let a cordial drench be given.

Dr. Monro, Professor of anatomy at Edinburgh, invented an instrument, which was intended to answer the same purpose with the invention of Mr Eager, above mentioned. It consists of an iron wire about one sixteenth of an inch in diameter, twisted round a rod three eighths of an inch in diameter, and made of polished iron, in order to give it a cylindrical form; the wire, after being taken off the rod, should be covered with smooth leather. To the end of the tube, which is intended to be passed into the stomach, a brass pipe two inches long of the same size, or rather bigger than the tube, is to be firmly connected; and to prevent the tube from pending too much within the mouth or gullet, an iron wire, one eighth of an inch in diameter, and of the same length as the tube, is put within, but afterwards withdrawn, when the tube has entered the stomach, as Dr. Monro has ascertained that the distance from the fore teeth to the bottom of the first stomach of a large ox, is about six feet, the tube ought to be at least two yards long, that it may operate effectually in the largest oxen. When the instrument has been introduced into the stomach, it may remain there for any length of time, as it does not obstruct the respiration of the animal: the greater part of the condensed air will be speedily discharged thro' the tube: and should any ardent spirits, or other liquor calculated to check the fermentation, be deemed necessary, it may be safely injected through this pipe. In short the flexible tube here described, has been found of infinite service in saving the lives of cattle and especially of sheep, when subject to similar disorders, or any other swelling peculiar to those creatures.[See Domestic Encyclopedia,Art. Cattle.]

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* This may be of elder, sumach, or a turkey, or goose quill.

The 33d vol. of Mr. Young's *Annals of Agriculture*, announces the following recipes as a specific for this disease, even in the most desperate cases; effecting a cure within the short space of half an hour. Take three quarters of a pint of olive oil, and one pint of melted butter or hog's lard; give this mixture by means of a horn or bottle; and if it does not produce a favorable change in a quarter of an hour, repeat the same quantity and walk the animal gently about. For sheep attacked with this malady, the dose is from a wine glass and an half to two glasses

The following simple remedy we have been told is effectual, but cannot say to what extent it may be relied on. Make about a pint of lie, either with hot embers thrown into a sufficient quantity of water, or by dissolving therein about an ounce of pot or pearl ash, and turn it down the throat of the ox or cow affected. A proportionably less quantity is said to answer for a sheep. This medicine, we are informed, operates by neutralizing and absorbing the carbonic acid gas in the stomach of the creature, which causes the swelling and other symptoms to subside. We wish this remedy might be tried, and its results made public. We suspect, however, that in extreme cases, it will be necessary either to make an incision, or make use of Dr. Munro's flexible tube, or Mr. Eager's cane with a knob of wood at its end. Where the danger, however, does not appear to be imminent, there is little doubt but that either the oil and lard, or the lie, as mentioned above, would prove effectual.

When the animal has obtained relief by the means mentioned above, one of the following drinks, is by Dr. White reccommended to be given.

No. 1.

Powdered ginger,	½ oz.
Spirit of nitrous ether,	2 oz.
Oil of peppermint,	30 drops.
Warm water,	1 pint

(Mix for one dose.)

No. 2.

Powdered caraway,	1 oz.
Ginger,	1 dr.
Warm ale, [or warm water,]	1 pint.

(Mix.)

No. 3.

Powdered gentian,	1 oz.

Cascarilla bark,	2 dr.
Warm ale, [or water,]	1 pint.

(Mix.)

An infusion of camomile flowers and ginger is also a good stomachic in such cases.

When cattle have suffered a severe attack of this disease, the stomach is generally weakened by it; great care therefore, is necessary, in order to prevent a return. For several days after, they should be fed rather sparingly, or not be allowed to eat much at one time: and every morning and evening for three or four days, may take one of the above drenches.

Sheep are liable to a similar disease, and may be relieved by the same remedies. The instrument, however employed for sheep, need not be more than three feet in length: it should also be smaller and more flexible. It has been said that a common cart whip, may on emergencies, be made to answer the purpose, if used with dexterity.

Any one, unaccustomed to handle cattle, would find some difficulty in using Mr. Eager's instrument; but if the horn be held firmly with the left hand, and the part which divides the nostrils be grasped firmly with the right hand, the animal will generally submit quietly to the operator.

Gripes, or Flatulent Colic.

This disease, in horned cattle, is generally the effect of costiveness, or a retention of food in the third stomach.

Sometimes, however it happens, when the bowels are in a lax, or natural state. Cows that are fed upon grains are very liable to this complaint; such, also, as are kept upon dry food are often attacked by it. When colic takes place, independent of costiveness, it is generally occasioned by feeding greedily upon fresh succulent grass, or by drinking cold water when heated by exercise, and comes on rather suddenly; but when it is caused by costiveness, the attack is generally more gradual.

The symptoms are at first, an appearance of restlessness in the animal, often lying down, groaning, or striking against the belly with the hind feet or horns. The body is often swollen, which is most observable on the left side. The pulse is generally in its natural state. If proper remedies are not administered, the pain becomes more violent, and at length inflamation takes place, which is indicated by the pulse becoming very quick, and the ears, horns and feet cold; when this happens the disorder most commonly terminates in death. When the colic appears to arise from costiveness, purging medicines are of course the essential remedy; but they should be combined with aromatics, or stimulants, as in the following prescription; and if the animal is in good condition, or the inner surface of the eyelid is unusually red, it should be bled freely; but if the complaint is attended with looseness, or the bowels are in their natural lax state, particularly if the animal appears rather weak, and the inner surface of the eyelid pale, the following carminative drink should be given, and no blood taken away. When the purging drink is found necessary its operation may be promoted by clysters. It may not be unnecessary to observe that when the colic is caused by feeding greedily on grains, or any other kind of food, the cow must be fed cautiously for sereral days after, and take the stomachic drink, hereafter mentioned, once or twice a day, in order to restore the tone or energy of the stomach. On the other hand, should the disease have been occasioned by costiveness, or feeding upon dry food, the state of the bowels must be attended to after the animal has been relieved by the opperation of the purgative drink: as the tendency to costiveness will probably continue, unless it be removed by a change of food. When this cannot be done, some salt should be mixed with the food if the animal will eat it; if not he should be drenched with three or four ounces of salt dissolved in water daily; this will serve to open his bowels in a slight degree, and increase his appetite for water, with which he should be freely supplied.

Purging drink.

Barbadoes aloes	½ oz.
Carbonate of potash, or common potash	3 dr.
Powdered ginger	½ oz.
Water	1 pt.
Oil of turpentine	1 oz.
Linseed oil	8 oz,

Mix for one dose.

When the above medicine cannot be procured in time, the following may be substituted for it.

Common salt	½ lb.
Sweet oil, linseed oil, or any kind of oil which is not very rancid or even meltod hog's lard	½ lb.
Flower of mustard	1 oz.
Water	1 qt.

To this a glass of spirit may be added

Stomachic Drink.

Powdered ginger	½ oz.
Powdered gentian	1 oz.
Carbonate of ammonia [volatile salts]	2 dr.
Infusion of camomile flowers	1 pt.

Mix for one dose.

Carminative Drink.

Oil of turpentine	1 oz.
Tincture of opium	6 dr.
Spirit of nitrous ether	2 oz.
Water	1 pt.

Mix for one dose.

White's Treatise.

Indigestion or loss of the Cud.

Mr. Lawrence says that in this disease, "the beast mourns, and has no appetite, or drops its food without attempting to swallow it. Probably from defective irritability in the fibres, or contracting muscles of the *rumen* or cud-bag, the animal is unable to throw up or ruminate, of course the bag remains loaded and obstructed. The intention is to remove the obstruction and re-invigorate the animal fibres. Let the animal fast some time, then give a warm bran, or pollard marsh, with good hay and warm water with salt. This treatment alone may succeed with patience, even should the maw be obstructed by acorns or crab-aples. An aloes tincture made with brandy and ginger or capsicum [red pepper] might be of use in this case. After conquering the obstruction, bitter infusions made of camomile, hardhound, oak bark, &c. in beer, may be required, as restoratives, although perhaps good dry nourishing feed will have an equally good efect."

It is remarked by Mr. White that "the earlier stages of this complaint are not marked by very striking symptoms. The animal has a dull, or languid appearance; and generally, a rough unhealthy coat and tight skin. The appetite is diminished, and at length he ceases to chew the cud. The eyes and mouth have generally a yellow appearance.

" To cure this disease, it should be attacked at an early period; for when the liver has become affected in a consiberable degree, it terminates fatally. Should there be any appearance of costiveness, the following warm laxative is first to be given; more commonly, however, the bowels are in a loose state, and the dung has an unhealthy appearance; in this case, let the tonic drench be given morning and evening, and let the animal be kept in a warm sheltered situation. It may be necessary to repeat, that this, like most other internal diseases of cattle, may generally be removed by timely attention; but in attempting a cure after they have existed some time, a great deal of unnecessary expence is often incurred.

Warm Laxative.

Barbadoes aloes	½ oz.
Castile soap	6 dr.
Ginger	3 dr.
Cascarilla bark	2 dr.
Warm water	1 pt.

Mix.

After the operation of the laxative, the tonic drench may be given, should it be found necessary.

Tonic drench.

Cascarilla bark and ginger, of each	2 dr.
Soda	2 dr.

To be given in a pint of ale, beer, or warm water."

Jaundice or Yellows.

This disease may be known, principally, by yellowness of the eyes and mouth; a dull or languid appearance; and debility; a loss of appetite too is a common symtom. It may be distinguished from the former disease by the costiveness, which uniformly attends it, and by the animal appearing to be in more pain. At the commencement of the disorder a cure may generally be accomplished, by giving the warm laxative, directed for the foregoing complaint, and repeating it after an interval of five or six days, giving, in the intermediate time, the following drink, every morning and evening.

Castile soap	½ oz.
Venice turpentine	⅓ oz.
Ginger	3 dr.
Powdered gentian root	1 oz.

Rub the soap and turpentine together, in a mortar, until they are incorporated; then add, gradually, a pint of water, and afterward the ginger and gentian.

In the more advanced stage of this disorder, the liver is generally so injured as to render a cure impossible.—*White's Treatise.*

Mr. Lawrence observes that " this disease in cattle originates in hepatic, or liver-obstruction from cold; however, always from obstruction. which is most effectually opened by mild mercurial purges, notwithstanding the beast may appear weak and hide bound. The yellow tinge in the eyes and mouth, aud upon the urine, sufficiently indicate the disease. Take the patient to the house, the earlier the better, and if he remain weak after two or three days, give steel beer, milk warm, a pint twice a day for a week, and good keep. One gallon good beer, three or four ounces iron filings, infuse in a stone bottle corked up three or four days; shake daily. Hard labour during great heats was said by the old writers to produce the Gall or Overflow of the Gall, which often terminates in the yellows."

Diarrhœa, Looseness, Slimy Flux, or Scouring Rot.

This disorder consists in a frequent discharge of dung, of an unusual color, thin and slimy.—The animal gradually looses flesh, but continues for some time to feed well and ruminate. At length the excrements become of a darker color, and frothy, and in the latter stages have the appearance of half-chewed food, the digestive power being entirely lost. It is said that when animals have been long affected with this disease, they feel a great degree of pain and distress when grasped on each side of the backbone, just below the shoulders; and this is sometimes considered, by dealers in cattle, as a mark of a beast's being tainted with the scouring rot.

The fatal symtoms are the dew-lap hanging down and having a flabby appearance; the dung running off, with a putrid and offensive smell, and as it falls to the ground, rising up in bubbles; the hair all over the body appearing pinfeathered, or erect, as if the animal was enduring a severe cold.

The causes of this complaint are exposure to cold and rain, particularly when the animal has been over driven or heated by working immediately before such exposure. Drinking plentifully of water, under similar circumstances, will also produce this disease. Want of nourishment, particularly in cows that are constantly milked, often causes this disease. Perspiration suppressed by any cause; putrescency of the aliments may also bring on this complaint. It often attacks cattle which have been kept short during the winter, and when they are put to grass in the spring, they are seized with a diarrhœa, particularly if the weather is wet or cold, and grass plentiful.

Mr. Lawrence says, "if, on the first appearance of the scouring, cattle are taken in, and kept on dry food, it will generally supersede the use of medicine." "This," says Mr. White, is certainly necessary; but is not, I believe, sufficient to eradicate the disease; and though it may suppress it for a time, yet the scouring generally returns, when the animal is again sent into the pasture. The *immediate* cause of the disorder appears most frequently to be an unhealthy action of the liver, which seems to form bile of an acrid or hurtful quality, by which the bowels are constantly irritated. I would advise, therefore, in the early stages of the complaint, to give the following drink for three successive mornings, which will rather increase the scouring at first; and, when the effect of the medicine has caused, let the astringent drink be given every morning and evening."

First Drink for scouring.

Epsom salts	1 lb.
Nitre	2 oz.
Camphor	½ oz.
Coriander seed	2 oz.

Mix for one dose.

This dose should be repeated for three morning following, unless it cause sickness or griping, or increase the scouring in a considerable degree. On the fourth morning, begin with the astringent drink, or earlier, should the above medicine produce its effect before the three doses have been taken. During the time the cow is taking the former medicine, she should be supplied with warm fluids, of which thin gruel is the best, and must not be exposed to a cold air.

Astringent Drink.

Take of starch	4 oz.
Mix in the usual way, that is, as it is employed for stifening clothes, with three pints or two quarts of water, so as to make a thick mucilaginous fluid; to this add,	
Tincture of opium	2 dr.
Ginger	3 dr
Catechu, or terra topponica	½ oz.

Mix.

Or the first drink for scouring may be:

Common salt	8 oz.
Flour of mustard	2 oz.
Water	1½ oz.
Oil, or melted lard	½ lb.

This will increase the discharge for a short time; afterwards, the dung will gradually become of a more natural consistence. But should the scouring continue, give the astringent drink already prescribed, or the following:

Powdered catechu	6 dr.
Tincture of opium	½ oz.
Powdered ginger	2 or 3 dr.
Warm ale, beer or water	1½ pt.

Mix.

The powder or tincture of galls, would also be found a powerful astringent.

With respect to the scouring, or diarrhœa in calves, which is not an unfrequent complaint, a different treatment is to be pursued. They may generally be cured by the following drink, given morning and evening:

Take of the above starch mixture	1 pt.
Powdered chalk, or what is called prepared chalk	3 dr.
Powdered ginger	1 dr.
Tincture of opium	1 dr.

Mix.

Lambs are subject to a similar disease, and may be cured by the same means, only lessening the dose.

In the diarrhœa, which arises from exhausting a cow by constant milking, when she is not sufficiently fed, or is supplied with food of a bad quality, the remedy is sufficiently obvious. But, in this case, it too often happens, that the constitution is worn out, before it is thought necessary to alter the poor animal's condition. Whenever this change is made it must not be done too hastily, as other diseases might thereby be produced.

When the scouring has ceased, the cow should be brought back to her usual state gradually. At first she should be turned out for a few hours in some dry pasture, when the weather is favourable; and her drink should be given less warm. This precaution is highly necessary, as the affected parts do not immediately recover their strength after the scouring has ceased

The Complete Gdazier directs that the beast taken with this disease should be immediately housed and put to dry food, which treatment, in the earlier stages of the disorder, will, generally, effect a cure. Should this, however, fail, it is advised, in that work, to boil a pound of mutton suet in three quarts of milk, till the former is dissolved, and give it to the beast in a luke warm state; or, in obstinate cases, to boil half a pound of powdered chalk in two quarts of water, till it is reduced to three pints; add four ounces of hartshorn shavings and of cassia, and stir the whole together. When cold add a pint of lime water and two drachms of the tincture of opium; keep the whole in a corked bottle, and, after shaking it before using, give one or two hornsful, two or three times a day, as the nature of the case may require.

Red Water or Bloody Urine.

In this disorder the urine appears as if it were mixed with blood. As the disease advances, the urine becomes of a darker color, and at length resembles foul coffee; the animal looses strength rapidly, and sinks under the disorder. Cattle attacked by this disease seldom live beyond the tenth or twelfth day, unless it is put a stop to by proper remedies. It is generally attended with costiveness; and if this is not the case at first, it almost always happens in the course of the disorder, unless prevented by laxative medicine. It is caused by weak relaxed vessels; thin blood; cold; change from a poor to a rich pasture; scarcity of water in a long and dry summer; blows across the loins; some animals appear to have the disease hereditary.

Dr. White recommends, in the first place the following mild laxitive:

Epsom salts [sulphate of magnesia] or common salt	4 to 6 oz

Nitre	1 oz.
Whey or thin gruel	1 pt.
Oil, or melted lard (but caster oil is preferable)	6 to 8 oz.

Mix.

After the laxative, should the disease continue, the following drink may be given:

Alum	1 oz.
Disolve it in a pint of hot water, and add—Oil of turpentine	2 oz.
Powdered catechu, or terra japonica	1 oz

Mix.

When red or bloody water is caused by strains or a bruise in the loins, it is distinguishable by the tenderness of the part, the animal giving way when it is pressed upon, and by stiffness in the motion of the hind parts. In this case, also, a laxative may be given; and, if the injury is considerable, the loins should be fomented with hot vinegar, and afterwards covered with a fresh sheep's skin.

Whenever the animal is observed to be frequently endeavoring to stale, voiding only a small quantity with much pain and difficulty, turpentine and all other diuretics, are improper; and decoction of marsh mallows are most likely to afford relief.

The Farmer's Assistant asserts that this disorder has very rarely known in this country.

Foul in the Foot, or Hoof Ail.

Dr. Peck, an English writer, has given the following account of this disorder and its treatment.

"*Symptoms.*—A hard crack first appears between the claws, or hoofs, attended with considerable inflammation; afterwards a fœted and offensive matter is discharged, similar to that of the grease in a horse's heels; sometimes it appears in the form of a large tumor upon the cornet, between the hair and the hoof, attended with violent pain and inflamation.

"*Treatment.*—Wash the part from all dirt, and if between the claws take a rope of a proper thickness, and chafe the part afflicted,* and afterwards dress the parts with the muriate of antimony [butter of antimony] or sulphurick acid [oil of vitriol.] Let the animal stand in a dry place for an hour, repeat the application every day. If the part be much affected, rub it with some stimulating ointment, and if the tumor be likely to suppurate, linseed poultices as oft as is necessary should be applied, and repeated till the inflammation has subsided; then dress the wound with lint and mild astringent ointment. Due regard must be paid to existing symptoms. A few doses of sodæ sulphas [glauber's salt] will cool the body and accelerate the cure.

Edward Skellett, Professor of the Veterinary art, an English writer of reputation, says that this disorder "proceeds from two causes; the one from accident, and the other from a morbid state of the system. Its situation is betwixt the claws of the cow, either in the fore or hind feet, but more frequently in the former. It is always attended with a swelling, the discharge from which, when it breaks or cracks, has a verp offensive smell.

The *accidental foul* proceeds from gravel, flints, bones, or any other hard substance getting between the claws, produces great pain and inflammation. The first step to be taken for its cure is to remove the hard substance, and clean the wound out; then the following ointment is to be applied to the part, spread on tow, and bound on with cloth and string.

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* This practice is condemned by other writers as cruel and unnecessary.

Soft soap	1 lb.
Common turpentine	1 lb.

"Melt over a slow fire till the two articles are completly united. The dressings may be repeated two or three times, which never fails to complete a cure.

"The *joint foul* begins with great pain, attended with inflamation and swelling betwixt the claws, and even up to the fetlock joint. The claws are extended outwards from the swelling betwixt them, and the animal is very feverish. The attack of the disease is very sudden.

"In this case bleeding will be proper; after which give a dose of epsom salts; then apply a plaister of soap betwixt the claws, It must be repeated every two or three days till a large core comes out, which is always the case in this disease before a cure can be completed. The wound may then be dressed with the following digestive ointment, in order to heal it.

Take of tar	1 lb.
Common turpentine	1 lb.

" To be put into a pipkin over a slow fire till it is completely dissolved,then take it from the fire and add to it four ounces of turpentine which should be stirred well together till it is incorporated."

This disorder, or something very similar, has been prevalent in the United States, and particularly in the State of Maine. A communication on the subject is published in the Massachusetts Agricultural Repository, Vol. 4, No. 4, page 348. In this it is said that the immediate occasion of the Hoof Ail, " is a stoppage of the issue between the claws or hoofs, which exist in all ruminating animals, and which are very much like the issues so generally known in the back part of the fore legs of pigs; the stoppage of which produces disease, and eventually death unless remedied.

The hoof ail indiscriminately attacks thin and fat cattle, and very considerable impressions are entertained that it is contagious; therefore till the contrary is proved, it is safer so to consider it.

From a very careful comparison of cases (from memory only) it appears to affect cattle who are in a feverish state, from various exciting causes; as over work; sudden changes from hard work to rest, and higher feeding, (a practice very common with farmers after working their cattle hard all winter, as a preparation for their spring's work;) being out in a storm; or being driven much, and kept long in the mud. In cows and young cattle, it seems to take either those that are brought from from worse keeping to better; or the finest and best cattle in the yard. But all these observations may be erroneous; for the disease often appears suddenly, without any apparent cause; affecting individuals of the same stock tied in different parts of the barn, and in entirely different cases as to condition, exposure, &c. &c. It however, very frequently goes through a whole stock, though it does not appear to follow in regular succession, according to proximity in the stable, or in the yoke. This may arise, either from contagion or the same exciting causes, operating on the whole. In short, it is a disease very terrible in its effects at times, and which does not appear to be understood. As very few cases of perfect recovery take place in a violent attack, and, as in all cases the recovery is very tedious, we should rather *prevent* than *cure;* for which end we must carefully watch for the symptoms, and without delay apply the remedies.

Symptoms.—When an animal is at all lame, its foot should be carefully felt. The first indication is usually an uncommon degree of warmth, and soft and puffed feel of the parts immediately connected with the slit between the hoof, either before or behind the foot, and generally above it. If in the hind foot, and not easily handled, a fulness may generally be perceived, by standing behind the animal and carefully comparing the appearance of the two feet, between the dew claws and the hoofs, (for it very rarely commences its attack on more than *one* foot.) In the fore foot it generally swells forward; and on taking up the foot, the slit between the hoofs will have the appearance of dry ness, easily distinguishable to a person used to cattle; and the animal frequently licks the front part of the foot. Instances frequently occur of sudden and extreme lameness, without any appearance of heat or swelling in the foot; but these are often the worst cases; but one symptom rarely fails to accompany the disease, which is, extreme restlessness, and appearance of anguish, attended with loss of appetite and flesh; but without, in the least, affecting the brightness of the eye, and, perhaps sometimes unnaturally increasing it; but the eye has a peculiar cast. As a general rule, it is safest to attribute all lameness of the foot, which cannot be traced to a sufficient cause, to the hoof ail. Lameness of the foot can generally be distinguished from that of the leg, hip, or shoulder, by making the animal step over a stick or rail, and carefully watching its motions.

Remedies.—The foot should be carefully washed and cleansed, and thoroughly examined, to be sure that the lameness does not arise from a nail casually run through the foot, or a pinch in shoeing, or from a wound from a stump or other substance between the hoofs, (a case frequently occurring.) If no appearance occurs of any break in the skin, while the foot is still wet, apply, as nearly as may be, to the centre of slit, between the hoofs, from one to three grains of corrosive sublimate (reduced to a fine powder) the dose to be proportioned to the size of the animal, and the violence of the attack.—Care must be used that the powder is put completely into this slit, for it is a very strong poison, and the animal as soon as at liberty, will begin to lick the foot, if a sore one.* The moisture left by the washing, makes the powder adhere; and the effect is produced in a very short time. Some prefer mixing the powder with hog's lard, which answers; but is thought less powerful: it has one advantage, however, as being less dangerous to keep in a house (for no one takes salve inwardly.) Where corrosive sublimate cannot be obtained, any other violent stimulant may be applied. Common salt is often effectual in very slight attacks, but it is of the greatest importance to lose no time. The applicaiion is to be repeated once every twenty-four hours, till a cure is effected, or till the foot shows unequivocal signs of a gathering which will break. It is supposed that the corrosive sublimate, by stimulating the parts, removes the obstruction, and enables nature to resume the natural discharge from the issue, of a matter, which

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* Might not a rag or bit of leather be so fastened with a string as to prevent any danger of this sort.

(as soon as pent up in the foot) causes inflammation and suppuration, and at last, forms an abscess, at all times very difficult to heal, and which, when large, *takes off one or both hoofs, which are never properly replaced.* It must, therefore, be considered as an object of the first importance to restore the secretion and discharge, without allowing a suppuration. This done, the cure is effected; and, since the course has been followed, no bad case has occurred in a very considerable stock of cattle, and the men attending them are quite familiar with the cure. If, from want of attention, or the violence of the attack, the gathering is formed, and breaks, it must be treated like any other tedious ulcer, and without any violent or harsh measures.

The animal should be kept quiet, fed well, and occasionally purged. As soon as the discharge has ceased, a salve of the flower of zinc, and hog's lard appears to be the best dressing.

It cannot be too strongly impressed on the minds of those who have the care of cattle that not a moment is to be lost: and that the corrosive sublimate produces no other inconvenience than pain for a few minutes, even if it should be applied in a case of lameness, which afterwards proves to have arisen from other causes.

An account appeared last season, of the cure being effected by cutting off the point of the hoof with a chissel, till it bled considerably. Of the efficacy of this remedy, no opinion is given, as it has never been tried here; but the impresseon is not favourable, as it must occasion temporary lameness, and, in unskiful hands, proves something more than temporary.

All such barbarous modes of treatment as hai ropes drawn backwards and forwards between the hoofs; hot irons; cutting out the part affected, and pouring into the wound, so made, hot pitch and other ingredients; scraping out the wound, and applying spirits of turpentine; in short all remedies of torture, should be at once discarded, and a simple mode of ascertaining the cause, and then removing the evil in the most expeditious and humane manner be substituted.

No inconvenience is known to occur from keeping an ox at work, if the lameness is not so great as to impair his condition; and it generally yields to three or four applications in the foot where it began; but frequently it must be followed round all the feet in succession.

We have been the more particular in our description of this disorder, and the remedies recommended on account of its alleged frequency in the United States. If the simple and cheap remedies recommended by Dr. Skellett, viz. soft soap, common turpentine, tar, and spirits of turpentine will answer the purpose, attributed to them by that writer, the discovery will be highly valuable.

On the management of Cows, when they are near the time of calving.

The diseases, which most commonly occur at this time, are strangury, or difficulty in voiding urine, and costiveness; and these it may be highly necessary to attend to, as they may, if neglected, be the cause of the cow slipping her calf. When strangury is accompanied with costiveness, which is generally the case, and is often the cause of the complaints, the bowels must be opened by a laxative composed of a pound of epsom salts dissolved in a quart of gruel, a clyster should also be given, consisting of two quarts of warm water, and four ounces of linseed oil. This may be repeated two or three times in the course of two hours, if found necessary Should the strangury continue after the bowels are emtied, give the following drink.

Take of camphor	2 dr.
to be powdered and mixed with spirits of nitrous ether	½ oz.
Tincture of opium	½ oz.
Gruel in which one ounce of nitre has been dissolved	1 pt.

(Mix.)

"Many cows have been lost by allowing them to be too fat at the time of calving; they are then said to die of the milk fever. It is advisable, therefore, when a cow, far gone with calf, is in too good condition, to reduce her by changing the pasture, which is preferable to bleeding or physic; but if she has approached too near her time to admit of this change having any effect, then bleeding will be proper. When a cow, in high condition, appears to be ill and feverish soon after calving, let her be bled to the extent of three quarts, and take a pint of caster oil. Should the fever continue, and particularly if it appears to increase, the animal expressing great uneasiness, with a wildness in her appearance, great redness of the upper eyelid, and quick motion of the flanks, the bleeding must be repeated. Many cows have been destroyed by the stimulating medicines that are commonly recommended and given.—*White's Treatise*.

Dr. Skellett recommends a similar treatment of the strangury in cows, and adds " The cow should have plenty of diluting liquors, such as warm water, gruel, &c. and mashes made of bran, or pollard, with a little malt. In two or three hours after she has had the drink and clyster, it will be necessary to drive her gently about for a quarter of an hour, as it greatly assists the operation of the medicines.

To prevent this disease, the animal ought to have air and exercise daily, and such food given her as is of a laxative nature, which will be of the greatest utility in her latter months of gestation."

Inflammation and swelling of the Udder.

This disease attacks cows about the time of calving, and is sometimes so considerable as to cause an abscess to form. As soon as it is observed, let the animal be bled freely, and take a pound of epsom salts dissolved in a quart of gruel, to which a little castor or linseed oil may be added. The swollen udder should frequently be fomented with a decoction of mallows or elder. The best method of doing this, is to dip large woollen cloths in the hot decoction, and, after wringing them, let them be applied so as to cover the whole udder: this process should be continued for some time, and repeated several times a day. When, by these means, the inflammation has been removed, some degree of hard, but not painful swelling may remain; to disperse this, the following liniment may be rubbed on the part once or twice a day:—

LINIMENT.

Take of linseed oil	4½ oz.
Spirits of turpentine	1 oz.
Liquor of ammonia	½ oz.

Inflammation of the udder sometimes occurs in consequence of catching cold, or a *chill*, as it is more commonly termed; in this case, the appetite is diminished, the cow stares, the breathing is quickened, and there is some degree of fever. Here bleeding is generally necessary at first, and the following warm laxative:—

Common salt	6 to 8 oz.
Oil or lard	6 oz.
Flour of mustard	1 oz.
Whey or water	1 pt

(Mix.)

The animal should be taken under cover, and fed with warm mashes of bran or malt. One ounce of nitre may be put into her water, morning and evening.

This inflammation is generally confined to one or two quarters of the udder, but sometimes spreads over the whole. The milk drawn from the infected quarter is of a yellowish or whey color, and contains small flakes or curds. When the inflammation is not seasonably checked, it often proceeds to suppuration. If the matter be suffered to accumulate, a large abscess will form, and the gland, or quarter will be so disorganized as to be incapable ever after of forming milk. It is proboble, however, that, when this happens, the other three quarters will have their capacity for forming milk gradually increased. Whenever matter has been formed in the udder, and can be distinctly felt, it is proper to open it in the lowest part, that the matter may flow off freely. When this has been done, the part should be kept clean, and no matter allowed to lodge in the cavity, which should be syringed with warm water. To get rid of the matter, it sometimes becomes necessary to make an opening in the teat, a little above its extremity, or the orifice. There is no occasion for cramming tents into the cavity, or daubing the udder with filthy ointments; it is quite sufficient to bathe and syringe with warm water two or three times a day, which will prevent the accumulation of matter; and if the healing process goes on languidly, a mixture of spirit and water, or a solution of white vitriol may be injected.

Cows that are near calving should be attended to with reference to their complaint; and if it is observed to be coming on, they should be bled, and milked. They should be kept in a bare pasture, or put into a cow house and be allowed but little hay, and a little of the linament above mentioned, or some other emollient ointment made use of to soften the udder.

What by some is called the Snarled Bag, or Swelled Udder, requires no other treatment than rubbing the part with elder ointment, and as the complaint is merely temporary, from the extension of the milk vessels, and is, in fact, a proof of a good milker, it will soon yield to this application.

Wounds of Cattle.

The wounds of cattle are most commonly caused by goring each other with their horns, or by breaking over fences; and, when deep or extensive, are generally followed with considerable inflammation. The treatment of these wounds, though represented by farriers as an intricate and mysterious branch of the art, is, in fact, extremely simple. When the wound is considerable, and some important parts have been injured, the irritating treatment commonly adopted by farriers, often destroys the animal; and in slighter wounds, their stimulating applications rather tend to retard, than promote recovery. In deep and extensive wounds, affecting important parts, every method must be employed, as early as possible, to prevent a fatal inflammation from taking place. Bleeding is the first remedy; and immediately after, let a purgative or laxative drink be given, receipts for which may be found under the head, *Gripes*, and other diseases. On no account should the wound be probed, or have any tents crammed into it; nor should any stimulating mixture be applied. The emollient fomentation [a decoctian of nallows and elder] directed for swollen udder, is the only application that can be used with advantage, until the inflammation has subsided; the fomentation should be continued for a considerable term, and repeated frequently.

When the inflammation occasioned by the wound, has been removed it will be proper to examine it with a probe, to ascertain whether any matter be confined or not; as in that case, it may be neccssary to enlarge the original wound, to give it vent, or make an opening in another more depending situation, that it may run off freely. Some stimulating application may also be proper at this period, such as a solution of blue vitriol, or

Tincture of myrrh	2 oz.
Corrosive sublimate	12 gr.

One part of oil of turpentine to two parts of sweet oil form a good digestive, as it is termed. And, if an ointment is preferred—

Take of hog's lard	8 oz.
Bees'wax.	1 oz.
Common turpentine	6 oz.

Melt them together; and, when taken from the fire, add one ounce of powdered verdigris; continue stiring the mixture until it is cold.

With respect to sewing up a wound, as it is called, there are circumstances which sometimes render it highly improper; in deep wounds, for example, where the external opening is not very large, or in wounds, where the divided parts have receded from each other, and there is difficulty in bringing them together; in the former case, the matter would be confined; in latter, much irritation would be caused by the stitches. In both cases, the inflammation would be considerably increased; but in superficial wounds, and where a flap of skin is seperated, it will be proper to stich it up; but on no account, should there be any stimulating fluid introduced, such as tincture of benzoin [frier's balsam] as Dr. Clater advises. It would be sufficient, should there be any dirt, or other matter, about the wound, to wash it off with warm water. Wounds of the belly, through which the bowels press out, are highly dangerous, and require the most delicate management. The first thing to be done, when this accident happens, is to put back the bowel into the belly as tenderly as possible; but if any dirt, hair, or other matter be observed on the intestine, it must be carefully washed off with warm water. When the bowel has been replaced, the wound must be stitched up, by means of a crooked needle and threads doubled, or small twine, well waxed (with bees wax;) a pandage is then to be applied. The animal is to be kept at rest, on a spare, open diet, of grass, or bran; and, if in any degree costive, a dose of caster oil may be given. The treatment of the wound is of little importance: the great object is to keep the bowel in its situation. It sometimes happens, that a great deal of air gets into the intestine, after it has escaped from the belly, and so distends it as to render it difficult if not impracticable, to replace it through the original wound. When, after a careful, and patient trial, this is found to be the case, the wound is to be enlarged, so as to allow the bowel to be replaced.—This must be done cautiously, the knife being guarded by the forefinger.

Bleeding from wounds seldom proves dangerous in cattle, and, if left to nature, generally stops in a short time; indeed it is the best plan not to meddle on these occasions: for, though the bleeding may appear formidable to persons not accustomed to such sights, it is really not dangerous; and unless some large vessel has been wounded, which bid defiance both to styptics and to pressure, it may safely be left to nature. Should it be thought necessary, however, to stop the bleeding, the most effectual mode of doing it, next to that of tying the blood-vessel, is pressure, by putting bolsters of tow or sponge to the bleeding part, and supporting it firmly with bandage. During the progress of the wound towards healing, the new flesh often rises above the surface, or appears to be produced too luxuriantly, to check this, a little powdered blue vitriol, mixed with bole, may be sprinkled on the part."—*White's Treatise.*

Grain-Sick.

The first symptoms of this disease are a dull, heavy appearance of the eyes of the animal; she frequently shifts about from one side to the other, and when let loose, or driven about, complains very much. On examining her, a fulness may be perceived betwixt the hip and ribs, on the opposite side to the milking one, if pressed with the hand; this fulness will be felt to consist in the extension of the stomach. As the disease advances a loss of milk ensues, aud a total dislike to any food.

This disease is caused by a surfeit of grain, and its remedies are bleeding and purging; the first to relieve the urgent symptoms, the second to remove the cause of the malady. The quantity of blood, according to Dr. Skellet, should not be less than from two to three quarts; but as he prescribes for large cows, in the vicinity of London, perhaps a smaller quantity would pe preferable for animals of but middling size.—The purging drink recommended by the same author is as follows.

Sulphur from 8 to 12 or 16 oz. proportioning it to the strength of the animal.
Nitre, 2 oz.
Turmeric or Cummin seeds, of each 1 oz.

When this has operated in unloading the stomach, the weakness of that organ, the loss of appetite which ensues, and the deficiency of milk connected with it, will be repaired by medicines of an aromatic aud bracing nature, such as coriander, ginger aniseed, &c. Diluent liquors and mashes form the proper food for some days.

Strains and Bruises

When these accidents occur in a considorable degree, or if an important part has been injured, bleeding is highly proper. As inflammation is the common effect of these injuries, fomentations are at first the most proper applications; and, when the inflammation has subsided, the linament recommended for swollen udder* may be rubbed on the part two or three times a day. When any part of the limbs has been strained, so as to occasion lameness, continues after this plan has been tried, it will be advisable to have recourse to a blister, which will be found more effectual than the most celebrated strain oils.

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*See N. E. Farmer, No. 30, p. 233.

In slight bruises from the pressure of the yoke, or other causes, the following lotion is useful:

Gourlard's extract	½ oz.
Vinegar	4 oz.
Water	1 pt.

Mix.

Warts, or Horny Excrescences.

These are affections of the skin which in cows do not go deep; they destroy the roots of the hair, wherever they form, and are of a firm and horny texture, and readily give way when pulled or roughly handled, which occasions them to bleed, and shows their connection with the vessels of the skin. They readily yield to emollient ointments, particularly to goose grease, which should be frequently rubbed on them till the excrescences fall off.

Swellings on the Joints and Bones.

Swellings on the joints and bones are generally very painful to touch, attended with inflammation and fever. If the swelling comes on suddenly, and its increase is rapid, it generally terminates in suppuration. If situated on the joint, a discharge of the liquor of the joint, or joint oil, is the consequence, which is dangerous and troublesome to cure. On the coutrary, if the swelling comes gradually, with little pain, and a hard callous substance is felt, and if early attempts are not made to stop its progress, it will end in a stiff joint, and all attempts to cure it will be in vain.

This disease generally proceedes from kicks or blows with stools, &c. or violent strains.

When the swelling comes on rapidly, with much pain and inflammation, bleeding and purging should be immediately recured to. The purge should be

Epsom salts	1 lb.
Nitre	2 oz.
Ginger	2 oz.

Fomentations should be applied twice or three times a day. The following is recommended by Dr. Skellet:

Take of Wormwood and Southernwood, of each, two handfuls,
Poppy heads, four or five handfuls,
Elder flowers, a handful,
Cammomile flowers, 4 oz.
Bay and juniper berries, of each, 1 oz.
Crude Sal Ammoniac and Potash, each 2 oz.

Boil these materials in four quarts of spring water till reduced to three. Then foment the swelling with flannels, as hot as possible, for a quarter of an hour or more; aftar which, the flannels are to be bound over the part till the time of fomenting again. This operation may be repeated for two or three days, at which period the inflammation will probably be on the decline. when the following method must be adopted.

Take of Spanish flies in fine powder 2 dr.
Spirits of Ammonia 4 oz.

Mix together, and rub a little of the mixture into the part affected; after which a flannel roller is to be slightly put on, and kept on till a profuse discharge or blistering takes place, which will form into a crust, woich should not be rubed off.

If supperation has already began, or the disease so far advanced that it cannot be avoided, it should be brought to a head as soon as possible; after which the following balsam may be applied once or twice a day.

Take of compound tincture of myrrh	2 oz.
Blue vitriol water	½ oz.

The vitriol water may be made by dissolving ten drachms of blue vitriol in powder, in a pint of hot water; the balsam to be well shaken together previous to using it. Should there be any discharge of the joint oil it may be necessary to proceed as hereafter will be directed under the head, *Loss of joint oil.* When the scurf falls off, which the blistering has produced, and there remains any lameness, the following plaster should be applied.

Take of black and burgundy pitch	1 lb
Oxycroceum and Paracelsus	4 oz.
Bole Armenian and Dragon's blood	2 oz.

When this swelling comes on gradually with little pain, and is of a hard, callous, or bony nature, fomentations will be of no use. But the hair should be first cut off the part affected, and some of the under mentioned blister rubbed well into the swelling with a knife or spatula; and it may be repeated for two or three successive mornings, or till a plentiful discharge is produced.

Take of quicksilver	1 oz.
Goose grease	2 or 3 dr.

To be rubbed together in a morter till the quick silver is completely killed; then add the following in fine powder.

Take of Cantharides	2 dr.
Sublimate	1 dr.
Oil of Origanum	2 dr.
Marsh mallow ointment	2 oz.
Goose grease	1½ oz.

Tar	2 oz.
Oil of vitriol	1 dr.
Spirits of ammonia	1 oz.

Mix all well together.

After this operation, and the scurf had fallen off, if there should remain any hardness, and the animal is still lame, the blister may be repeated, which seldom fails to produce a perfect cure. If the animal seems weak in that part, after the above process, which is sometimes the case, the plaister of burgundy pitch, &c. before recommended, will be proper, in order to strengthen it

Soft Swellings.

From bruises and other accidental injulies in getting up and lying down, cows are subject to soft or œdematous swellings of the joints, which are without any pain, heat or inflammation. They enlarge often to a considerable size, and yield readily to the pressure of the finger.—Though this complaint is never attended with danger, it is troublesome to the animal from its size,and even difficult to remove, if it has been of long continuance. Its management depends on making an opening into the swelling in the first instance, which may be done by running a hot iron into the lowest or most depending part of it, making two or three openings in this way where the fewest blood vessels are situated; and this operation requires particular caution, that the discharge may gradually come away, and that no vessels may be injured, from the danger of producing an internal hemorrhage, which would occasion a new increase of swelling and inflammation, instead of lessening the disease.—When the openings into the swelling are properly made, and a gradual evacuation takes place, then the orifices are to be plugged up, within twenty four hours, with a caustic composed of a small quantity of corrosive sublimate, in powder, placed on tow, which is to be first wetted, that the powder may adhere to it. The effect of this will be to cause a sloughing of the coats of the swelling, when a core to a certain extent will be brought out, by which means a suppuration will ensue, and the swelling be gradually reduced during its progress. The swelling is to be rubbed at the same time with the following mixture:

Linseed oil	8 oz.
Oil of turpentine	2 oz
Oil of vitriol	1 oz.

Though the parts never regain entirely their natural size, yet by these operations, the animal will be enabled to move the joint without any inconvenience. After the wounds are healed, the remaining callous or swelling should be blistered two or three times, in order to make the joint more pliable. The blister most proper for the purpose is composed of Spanish flies and spirits of ammonia, as directed under the head "Swellings on the joints and bones."

Loss of joint Oil, or Synovia.

Wounds, or punctures of the joints, often penetrate so deep as to pierce through the tendons and ligaments, occasioning a loss or dicharge of the natural secretion of the joint, viz. Its oil, or synovia; the same accident may happen from any injury exciting inflammation, and that inflammation passing on till it produces an opening into the joint. This disease is always an alarming one, and the principle of cure is to produce the process of healing as quickly as possible, by exciting active inflammation; this may be done after the first effects of the injury have subsided, in consequence of bleeding, purging and fomenting, in the usual manner, and then applying the volatile blister to the joint, composed of Spanish flies, in powder, two dr. and spirits of ammonia, four oz.; at the same time the orifice is to be plugged with a tent, dipped in the following composition:

Sweet spirits of nitre	3 dr.
Butter of antimony, and extract of lead, each	2 dr.

The blister and caustic may be occasionally repeated; the mixture every twenty-four hours, till the effusion of joint oil is completely stopped; then the following balsam may be applied once or twice a day, in order to heal up the wound:

Tincture of myrrh	2 oz.
Blue vitriol water	½ oz.

"The vitriol water may be made by dissolving ten drachms of blue vitriol, in powder, in a pint of hot water; the balsam to be well shaken together previous to using it. The blister is to be well rubbed on the joint, till a plentiful discharge takes place from the surface, when it becomes no longer requisite. By this treatment a cure is generally effected, unless when the bones are materially injured along with the soft parts, and then any plan of cure will prove ineffectual. When weakness of the joint prevails, after the running of the joint-oil is stopped, which is generally the case, a plaster of pitch, &c. as recommended in page 1[illegible]2 should be applied."—*Skellet's Treatise.*

Mange.

This is a cutaneous disease, which is very contagious, for so many cows as come in contact with one labouring under the disorder, will be sure to catch it. Its symptoms are, a scarf on the external part of the body, which is always attended with an itching. This the animal shows, by having a continual inclination to rub the affected part or parts against any thing she can get at. Some say that it is caused by a kind of animalculæ, which burrows in the skin. It generally attacks those animals which are low in flesh, and have been fed on poor forage.

The first step in order to cure this disease is to take a currycomb and gently curry off the scurf, in order that the medicine may have the better effect. After this the following application is to be rubbed on the parts affected, which may be repeated every three or four days till a cure is effected; and it seldom requires more than two or three applications:

Flowers of sulphur	1 lb.
Spirits of turpentine	½ pt.
Train oil, enough to make it into a thin liquid.	

Horn Distemper.

This is a disease which has its seat in the horns. Cows are more subject to it than oxen, and it does not attack bulls; and steers and heifers, under three years old, it is said, are not subject to it. The distemper causes the pith of the horn to be gradually consumed. It is most commonly confined to one horn only, but sometimes appears in both. It is occasioned by poor keeping, by which the blood becomes thin and reduced, and does not circulate properly in the extremities. It is discovered by the sluggishness of the animal, loss of appetite, a coldness of the horn, and a disposition to lie down.

To cure the disease, the horn should be bored with a nail gimblet in such a manner as to effect the discharge of the matter which has become purulent. The hollow part should be well cleansed by vinegar in which a portion of salt has been dissolved, to be injected by a syringe. Dr. Deane recommended the injection of a mixture of rum and honey, with myrrh and aloes. Stimulating medicine, such as ginger, spices, &c. have been given, but these are injurious until the bowels have been evacuated. Laxatives, however, such as sulphur, glauber's salts, &c. prove serviceable; and after the bowels are evacuated, and the horn well cleansed, good keeping will be necessary to effect the cure.

Tail Sickness

This is a distemper attended with weakness and sluggishmess to which horned cattle are liable in the spring. The end of the tail becomes hollow, and relaxed, but not, as some have asserted, destitute of feelling. A cure is easily effected by the amputation of a small piece of the tail, which will be attended with a discharge of some blood. But when the tail is but little affected, and near to the end, a slit of an inch or an inch and a half, in the end of the tail, is preferable to amputation.

Ulcers.

An ulcer is "a solution of the soft part of an animal body, together with the skin." The symptoms of an ulcer, which is in a way to be healed, are granulations, or little eminences, arising from the surface of a florid or reddish colour, small in size, and pointed at the top; the discharge, white and thick. This will generally be effected by giving the animal perfect rest, using mild and simple ointments, such as are composed of oil and bees' wax, or hog's lard, which is not rancid. Turpentine and lard melted together make a good ointment. The following has likewise been recommended:

Goose grease	1 lb.
Hog's lard	2 lb
Red Lead	3 oz
Pulverised alum	1 lb.

The goose grease and lard are to be melted over a slow fire; the lead is then to be added in fine powder, which is to be constantly stirred till it becomes cold, in order that it may be well incorporated. A little sulphur and nitre may be given by way of alternative.

If the ulcer assumes an inflamed state, and the surface is covered with a brown transparent matter, the following fomentation will prove useful.

Camomile flowers	½ lb.
Wormwood	a large handful
Bay and Juniper berries, each	4 oz.
Beer or ale grounds, emptins or yeast	6 qts.
Vinegar	1 qt.

The whole to be boiled for a quarter of an hour

Leeches applied to the edges of the ulcer will be serviceable, and purges of glauber salts or epsom salts.

If the ulcer becomes black and fetid, with a cessation of every inflammatory symptom, and there appears to be danger of mortification, give an ounce of Peruvian bark every four hours; a little opium may be joined with it. Fomentation with hot vinegar will be found useful. When the parts suppurate, cut off the dead matter with a knife, and afterwards dress with some simple ointment.

If there is too rapid a growth of fungous matter, or what is called proud flesh, it may be well to rub in a small quantity of the following caustic over the whole surface of the preternatural growth, with a spatula.

Soft soap	1 oz
Arsenic	½ oz.
Oil of vitriol	½ oz.
Spirits of lavender	½ dr.

The soap and arsenic to be mixed first, and then the vitriol added by degrees. The whole may then be covered with the digestive ointment of tar and turpentine, prepared as mentioned in a former receipt. By these means part of the growth will become dead in a few days, which may be cut or pared off, and the same caustic application made to the remaining part till the whole is destroyed.

In ulcers in fleshy parts there is often a preternatural callous, or hardened growth. This must be destroyed before a cure can be completed. In this case, the before mentioned caustic must be applied, but used with caution. The hard part is to be rubbed with it for half the extent of the swel ling, beginning at the orifice. The dead parts are then to be cut away every two or three days, and the application is to be repeated till the cure is complete.

ON SHEEP.

For the foot-rot in sheep.

Take a piece of alum, a piece of green vitriol, and some white mercury—the alum must be in the largest proportion; dissolve them in water, and after the hoof is pared, anoint it with a feather, and bind on a rag over all the foot.

Another.—Pound some green vitriol fine, and apply a little of it to the part of the foot affected, binding a rag over the foot as above. Let the sheep be kept in the house a few hours after this is done, and then turn them out to a dry pasture. This is the most common way of curing the foot-rot in Middlesex.

Another.—Others anoint the part with a feather dipt in aqua fortis, or weak nitrous acid, which dries it at once. Many drovers that take sheep to Smithfield, carry a little bottle of this about with them, which, by applying to the foot with a feather, helps a lame sheep by hardening its hoof, and enabling it to travel better. Some may think aqua fortis is of too hot a nature, but such a desperate disorder requires an active cure, which, no doubt, is ever to be used cautiously.

Another.—Spread some slacked quick lime over a house floor pretty thick, pare the sheep's feet well, and turn them into this house, where they may remain for a few hours, after which turn them into a dry pasture. This treatment may be repeated two or three times, always observing to keep the house clean, and adding a little more quick lime before putting them in.

The foot must be often dressed, and the sheep kept as much as possible upon dry land. Those animals that are diseased should be kept separate from the flock, as the disorder is very infectious.

Prevention and cure of the foot-rot in sheep.

On suspected grounds, constant and careful examination ought to take place; and when any fissures or cracks, attended with heat, make their appearance, apply oil of turpentine and common brandy. This, in general, produces a very beneficial effect, but where the disease has been long seated, and becomes, in a manner, confirmed—after cleaning the foot, and paring away the infected parts, recourse is had to caustics, of which, the best seem to be sulphuric acid, and the nitrate of mercury. After this, pledgets are applied, the foot bound up, and the animal kept in a clean, dry situation, until its recovery is effected.

But it often happens, where the malady is inveterate, that the disease refuses to yield to any, or all of the above prescriptions.

The following mode of treatment, however, if carefully attended to, may be depended upon as a certain cure. Whenever the disease makes its appearance, let the foot be carefully examined, and the diseased part well washed, and pared as nigh as possible, not to make it bleed; and let the floor of the house, where the sheep are confined, be strewn three or four inches thick with quick lime, hot from the kiln; and the sheep, after having their feet dressed in the manner above described, to stand in it during the space of 6 or 7 hours.

In all cases, it is of great importance, that the animal be afterwards exposed only to a moderate temperature—be invigorated with proper food—and kept in a clean, easy, dry pasture; and the disease will be effectually remedied in the course of a few days.

To prevent sheep from catching cold after being shorn.

Sheep are sometimes exposed to cold winds and rains immediately after shearing, which exposure frequently hurts them. Those farmers who have access to the sea, should plunge them into the salt water, those who have not that opportunity, and whose flocks are not very large, may mix salt with water and rub them all over, which will in a great measure prevent any mishap befalling the animal, after having been stript of its coat.

It is very common in the months of June and July, for some kinds of sheep, especially the fine Leicester breed, which are commonly thin skinned about the head, to be struck with a kind of fly, and by scratching the place with their feet, they make it sore and raw. To prevent this, take tar, train oil, and salt, boil them together, and when cold, put a little of it on the part affected. This application keeps off the flies, and likewise heals the sore. The salt should be in a very small quantity, or powdered sulphur may be used instead of it.

To cure the scab in sheep.

Take 1 pound of quicksilver, 1-2 a pound of Venice turpentine, 2 pounds of hog's lard, and

1-2 a pound of oil, or spirits of turpentine. A greater or less quantity than the above may be mixed up, in the same proportion, according to the number of sheep affected. Put the quicksilver and Venice turpentine into a mortar, or small pan, which beat together until not a particle of the quicksilver can be discerned; put in the oil, or spirits of turpentine, with the hog's lard, and work them well together until made into an ointment The parts of the sheep affected must be rubbed with a piece of this salve, about the size of a nut or rather less. When the whole flock is affected, the shepherd must be careful in noticing those that show any symptoms of the disorder, by looking back, and offering to bite or scratch the spot; and if affected, he must immediately apply the ointment, as it is only by paying early and particular attention that a flock can be cured.

To prevent the scab.

Separating the wool, lay the before-mentioned ointment in a strip, from the neck down the back to the rump; another strip down each shoulder, and one down each hip; it may not be unnecesary to put one along each side. Put very little of the ointment on as too much of it may be attended with danger.

To destroy maggots in sheep.

Mix with one quart of spring water, a table spoonful of the spirits of turpentine, and as much of the sublimate powder as will lie upon a shilling.

Shake them well together, and cork it up in a bottle, with a quill through the cork, so that the liquid may come out of the bottle, in small quantities at once. The bottle must always be well shaken when it is to be used. When the spot is observed where the maggots are, do not disturb them, but pour a little of the mixture upon the spot, as much as will wet the wool and the maggots. In a few minutes after the liquor is applied the maggots will all creep to the top of the wool, and in a short time drop off dead. The sheep must, however, be inspected next day, and if any of the maggots remain undestroyed, shake them off or touch them with a little more of the mixture.

A little train oil may be applied after the maggots are removed, as sometimes the skin will be hard by applying too much of the liquid. Besides, the fly is not so apt to strike when it finds the smell of the oil, which may prevent a second attack.

This method of destroying maggots is superior to any other, and it prevents the animal from being disfigured by clipping off the wool, which is a common practice in some countries.

Cure for the scab in Sheep.

The simplest and most efficacious remedy for this disease, was communicated to the Society for the encouragement of Arts, &c. by the late Sir Joseph Banks; and is as follows:

Take 1 lb. of quicksilver, 1-2 a lb. of Venice turpentine, 4 lbs. of hog's lard.

Let them be rubbed in a mortar till the quicksilver is thoroughly incorporated with the other ingredients. For the proper mode of doing which, it may be right to take the advice or even the assistance of some apothecary, or other person used to make such mixtures.

The method of using the ointment is this: Be ginning at the head of the sheep, and proceeding from between the ears, along the back, to the end of the tail; the wool is to be divided in a furrow, till the skin can be touched, and as the furrow is made, the finger, slightly dipped in the ointment, is to be drawn along the bottom of it, where it will leave a blue stain on the skin and adjoining wool.

From this furrow, similar ones must be drawn down the shoulders and thighs to the legs, as far as they are woolly; and if the animal is much infected, two more should be drawn along each side, parallel to that on the back, and one down each side, between the fore and hind legs.

Immediately after being dressed, it is usual to turn the sheep among other stock, without any fear of the infection being communicated; and there is scarcely an instance of a sheep suffering any injury from the application. In a few days the blotches dry up, the itching ceases, and the animal is completely cured. It is generally, however, thought proper not to delay the operation beyond Michaelmas.

The hippobosca ovina, called in Lincolnshire, Sheep-fagg, an animal well known to all shepherds, which lives among the wool, and is hurtful to the thriving of sheep, both by the pain its bite occasions, and the blood it sucks, is destroyed by this application, and the wool is not at all injured. Our wool-buyers purchase the fleeces on which the stain of the ointment is visible, rather in preference to others, from an opinion, that the use of it having preserved the animal from being vexed, either with the scab or faggs, the wool is less liable to the defects of joints or knots; a fault observed to proceed from every sudden stop in the thriving of the animal, either from want of food, or from disease.

To cure the water in the heads of sheep.

Of all the various operations by which this distemper may be eradicated, I must, from experience, give the preference to one which will, perhaps, astonish such of your readers as form their opinions more from theory than practice. A number of medical men have already controverted the fact; and, with the utmost presumption, disputed my veracity to my face, after I had witnessed its efficacy in a thousand instances. It is no other than that of putting a sharpened wire up the nostril quite through the middle of the brain, and by that means perforating the bag which contains the fluid causing the disease. This is, of all other methods, the most certain to succeed: but it has this unpleasant appendage annexed to it, if it do not cure, it is certain to kill.

This method of cure is not only the most expedient, but it is in every shepherd's power, and one which he can scarcely perform amiss, if he attend to the following plain directions.

The operation must be performed with a stiff steel wire, such as isused for knitting the coarsest stockings. It must be kept clean, and free of rust oiled, and sharpened at the point. Care must be taken, however, that its point be only one-eighth of an inch in length, for if it is tapered like a needle, it is apt to take a wrong direction in going up the nostrils, fix in the gristle below the brain, and torment the animal to no purpose. If blunt in the point, it often fails to penetrate the bladder, which is of considerable toughness, shoving it only a little to one side; the safest way, of course, is to have the point of the wire sharp and short.

The shepherd must first feel with his thumbs for the soft part in the skull, which invariably masks the seal of his disease. If that is near the middle of the head above, where, in two cases out of three at least, it is sure to be, let him then fix the animal betwixt his knees, hold the head with one hand, laying his thumb upon the soft or diseased part, and with the other hand insert the wire by the nostril, most on a parallel with the seat of the distemper, aiming directly at the point where his thumb is placed. The operation is performed in one second, for if he feels the point of the wire come in contact with his thumb let him instantly set the animal to its feet; and if the weather is at all cold, let it stand in the house over night.

If the disease is seated exactly in that part where the divisions of the skull meet, and consequently in a right line with the top of the nose, he must probe both nostrils; when, should he miss the bulb on the one side, he will be sure to hit it on the other. If the seat of the disease cannot at all be found, and if the animal have all the symptoms of the malady, the water is then inclosed among the ventricles in the middle of the brain, and must be treated as above. Nothing can be done in the last case, save with the wire; but it is hard to cure them when so affected. I have found, on dissection, the fluid contained in many little cells in the centre of the brain; and though the wire had penetrated some of those cells, it had missed others.

By this simple operation alone, I have cured hundreds; and though I never kept an exact register. I think I have not known it to fail above once in four times at an average, in all the instances which have come under my observation; and some of these I knew to be injudiciously performed, the disease not being seated in a point whicц the wire could reach. I have at times cured a dozen, and ten, in regular succession, without failing once, and I have again, in some cold seasons of the year, killed three or four successively.

Sir George M'Kenzie has insinuated in his book on sheep, that I was the inventor of this mode of cure—but it is by no means the case. The practice, I understand, has been in use, among shepherds for ages past; but they were often obliged to perform it privately, their masters, like the professors about Edinburgh, always arguing, that the piercing of the brain must necessarily prove fatal. Sir George has, however, misunderstood my account in this matter in the Highland Society's Transactions; I did not mean to insinuate that it was with pleasure I discovered the art of curing them in this way, but only my success in that art. I mentioned in these Transactions, that when I was a shepherd boy, for a number of years I probed the skull of every sturdied sheep I could lay my hands on, without any regard to whom they belonged, and likewise took every opportunity of visiting my patients as often as possible; and as the country around me swarmed with them every spring and summer, my practice of course, was of prodigious extent. It was several years before I was sensible of failing in one instance, which, however, it was often impossible to ascertain, they having left the spot sometimes, before I could again go that way: but many a valuable young sheep I cured to different owners, without ever acknowledging it, having no authority to try such experiments.

The following symptoms, after the operation, may be depended on. If the animal becomes considerably sick, it is a good sign that it will recover.

If it continues to grow sicker, and abstains from feeding for the space of two days, it is likely to die; and if in a condition to be fit for family use, ought to be killed forthwith. The flesh of the animal is nothing the worse for this disease; on the contrary, it is universally supposed by the country people, that their flesh is sweeter, more delicate and palatable, than any other. This, I suppose, must be owing to their tender age, it being unusual to kill any sheep so young, save lambs.

The first symptom of recovery is their bleating. If once they begin to bleat occasionally, they are sure to recover, however stupid they may appear at that time. It seems that they are then becoming sensible of the want of society, the only thing which causes sheep to bleat, and which for a long time previous to that, they had totally disregarded.

I must mention here, that the most successful curer of this distemper I ever knew, performed the operation in a different manner from the one practised by me, and above recommended. Instead of a wire, he carried always a large corking pin in his bonnet, and, like me, tapped every sturdied sheep he found, but always above, putting the point of the pin through the skull at the place where it was most soft, in the same manner as the trocar is used. As this does not at all endanger the sheep's life, I frequently tried this plan previous to that of probing with the wire; but, as far as I can recollect, I never cured one by that means.

I remember of once conversing with him on the subject, when he told me that he seldom or never failed of curing them upon their own farms; but that, in sundry neighboring farms, he rarely cured any. From this, it would appear that on different soils, the animals are differently affected. I am now convinced that he must generally have inserted the pin so far as to penetrate the bottom of the sac, which I never had the sense to try, and which, if we reason from analogy, must prove as effective, and less hazardous than the other: for it appears to me, that, in order to ensure a recovery, it is necessary that the bottom, or lowest part of the sac, be penetrated.

Undoubtedly, the best mode of curing this disease would be, to extract the sac, and all that it contains, entirely. There is little doubt that, if this were performed by gentle and skilful hands, it would prove the most effectual cure; but as it is, I can attest that it seldom proves successful. The shepherds have not skill and ingenuity sufficient to close the skull properly up again, or sort it in such a manner as is requisite to defend it from external injury; of course, I would rather recommend the mode in which they cannot easily go wrong, and which I have seen prove most beneficial, when performed by men of like acquirements with themselves.

To prevent the "sturdy," or water in the heads of sheep.

With regard to the causes inducing water in the heads of sheep, there is but one opinion entertained among shepherds, which is, that it is occasioned by a chillness in the back of the animal, on account of its being exposed to the winds, and the sleety showers of winter. These cause it to acquire a kind of numbness and torpidity, which, if often repeated, are apt to terminate in an affection to giddiness, and finally in a water in the head.

That this disease is occasioned solely by a chillness in the back, appears from the following facts.

1. It is always most general after a windy and sleety winter.

2. It is always most destructive on farms that are ill-sheltered, and on which the sheep are most exposed to those blasts and showers.

3. It preys only on sheep rising their first year, the wool of whom seperates above, leaving the back quite exposed to the wet and to the cold.

4. If a piece of cloth or hide is sewed to the wool, so as to cover the back, such a sheep will not be affected with the disease. The experiment is a safe, a cheap, and an easy one; and, exclusive of its good effects in preventing the fatal disease under consideration, it is the most beneficial to a young sheep that is not over high in condition, and adninisters the most to its comfort during the winter, of any other that I know. It keeps the wool from opening, and the sheep always dry and warm in the back, which, exposed to cold, either in man or beast, it is well known, affects the vitals materially. When thus shielded the young sheep will feed straight in the wind, on the worst days, without injury, and, indeed, without much regarding the weather. This covering keeps them from the rain, prevents them from

being shelled and loaded with frozen snow, and from destruction by cold, by leanness, and the water in the head. The expense attending it is so trifling, that it is scarcely worth mentioning. One pair of old blankets, of the value of four or five shillings, will furnish coats for forty sheep: and if these are carefully taken off on the return of spring, and laid aside, they will serve the purpose for two or three successive years.—*Farmers Magazine.*

Practice of the Spanish shepherds.

The first care of the shepherd on coming to the spot where his sheep are to spend the summer, is to give to his ewes as much salt as they will eat. For this purpose he is provided with twenty-five quintals of salt for every thousand head, which is consumed in less than 5 months; but they eat none on their journey, or in winter. The method of giving it to them is as follows:—The shepherd places fifty or sixty flat stones about five steps distance from each other; he strews salt upon each stone, then leads his flock slowly through the stones, and every sheep eats at pleasure. This is frequently repeated, observing not to let them eat on those days in any spot where there is limestone. When they have eaten the salt, they are led to some argillacious spots, where, from the craving they have acquired they devour every thing they meet with, and return again to the salt with redoubled ardour.

Pelt-rot.

In this disease the wool falls off, but the skin does not become sore, but is merely covered with a white crust.

Cure.—Full feeding, warm keeping, and anointing the hard part of the skin with tar, oil, and butter, mixed together.

Tick

As these occasion a constant scratching, they prove injurious to the wool, and they sometimes occasion the death of lean sheep.

Cure.—Blow tobacco-smoke into every part of the fleece, by means of a bellows. The smoke is taken into the bellows, the wool is opened, the smoke is blown in, and the wool is then closed. This is repeated over every part of the body, at proper distances. It is quickly performed.

Staggers.

A disease of the brain, which renders them u able to stand.

Cure.—Dissolve assafœtida in warm water, an put half a spoonful in each ear of the sheep—It is a speedy remedy.

Colds.

The principal indication of this is the discharge of mucus from the nose. Good feeding, together with some pine boughs given them occasionally, will cure this complaint. If pine boughs cannot be had, spread some tar over a board, and over this spread some salt, which will induce the sheep to lick up all the tar, and this will effect a cure. Whenever this, however, becomes habitual with old sheep, they should be killed off.

Purging.—If any are severely afflicted in the spring with this, which sometimes happens after being turned out to grass, house them, give them a dose of caster-oil, feed them with dry food, and give them some crusts of wheat bread. A slight purging will not hurt them.

Hove.

Sheep, like neat-cattle, when put into clover-pastures, sometimes have their stomachs distended by wind, so that they will die if not relieved. The swelling rises highest on the left side, and in this place let the knife be inserted, or other means used to the same effect.

Pining.

When the excrement of the lamb becomes so glutinous as to fasten the tail to the vent, it must be washed clean, and have the buttocks and tail rubbed with dry clay, which will prevent any further adhesion.

Sometimes it may be found necessary to bleed sheep, to allay some inflammatory disorder.

Daubenton recommends bleeding in the lower part of the cheek, at the spot where the root of the fourth tooth is placed, which is the thickest part of the cheek, and is marked on the external surface of the bone of the upper jaw, by a tubercle sufficiently prominent to be very sensible to the finger, when the skin of the cheek is touched. This tubercle is a certain index to the angular vein which is placed below.

The method of bleeding, after finding the vein, it is hardly necessary to describe.

Philip De Castro, a Spanish shepherd, has written a short treatise on the diseases of sheep in Spain, and of their management there; and he recommends that bleeding should be performed in a vein in the fore part of the dug. The essay of this shepherd is believed to be worthy of some further notice.

He says the merino sheep of Spain are subject to the following diseases:

The Scab—Cured by juniper-oil, when the weather is wet, or by a decoction of tobacco, in dry weather.

Basquilla—Occasioned by too much blood. Cured by bleeding in the dug, as before mentioned.

Moderez—(Lethargy) occasioned by pustules formed on the brain. The sheep keep turning, while feeding, to the sides where the pustules are formed. Few recover and the disease is infectious. Some get well in part by pricking the part affected with an awl; but those attacked with this disorder should be killed off.

Smallpox—Being blisters, which first appear on the flanks, and spread over the body. It is produced by drinking stagnant waters. The diseased sheep are to be kept apart from the rest, as the disease is infectious, and when the blisters break anoint them with sweet oil.

Lastly, *Lameness*—This appears to be the same as is described by Mr. Livingston.

He observes that the legs of sheep are furnished with a duct which terminates in the fissure of the hoof; from which, when the animal is in health, there is secreted a white fluid; but when sickly these ducts are stopped by the hardness of the fluid.

He adds that he had, in some instances, found the sheep relieved by pressing out the hardened matter with the finger from the orifice of the duct in each foot. Perhaps it may in some cases be proper to place their feet in warm water, or to use a probe, or hard brush, for cleansing this passage.

He concludes by observing, that probably the ill-health of sheep, in wet or muddy pastures, may in some measure be ascribed to the necessity of keeping these ducts free and open.

Frequently changing flocks of sheep from one farm to another, where the pastures are equally good, is very beneficial to them. We know a flock which, for several years past, have been pastured on different farms, by being let out to different farmers on shares, which are much the finest looking sheep to be found any where in the neighborhood where they belong.

The farmer who would rejoice to see our country so far independent, as to become stocked with woolen fabrics of our own making, must feel himself impelled by his patriotism to endeavor to afford his share of supplies of wool, which are so needful to our infant manufactories; and he who is insensible to a love of country, may still find a powerful incentive to the raising of sheep, in consulting his own interest.

The raising of merino sheep, in particular, is undoubtedly very profitable; and the nearer the farmer brings his breed to that o the fullblood, the greater will be his profit. Like every thing, however, which innovates upon ancient usuges, the merino has its prejudices to encounter; and the savage who first introduced the use of his bow and arrow to his countrymen, no doubt, had the same. But let the sensible and spirited farmer persevere; and in the end his merino flock will afford him a rich harvest; the pleasure and profit of which his weaker neighbor must forego, as a tax on his prejudices.

ON SWINE.

Of the diseases in swine.

A hog is a very bad creature to doctor, therefore to prevent their diseases, should be an object of our attention.

Keep him well if you can, but not so as to burthen him with fat in hot weather; keep his body open, and there will be little danger of his being sick.—Brimstone in small doses, is excellent for a hog; antimony is also good; but if you can get neither, chamber lie put in their swill, will answer a good purpose. It is necessary to keep a hog's issues open.—The practice of feeding store hogs three times a day is not good: whereas if they are fed only morning and night, they keep their appetite, eat their food clean, and grow the faster.

To cure the measles in swine.

It sometimes happens, though seldom, that swine have the measles; while they are in this state, their flesh is very unwholesome food. This disorder is not easily discovered while the animal is alive, and can only be known by its not thriving or fattening as the others. After the animal is killed and cut up, its fat is full of little kernels, about the size of the roe or eggs of a salmon. When this is the case, put into the food of each hog, once or twice a week, as much crude pounded antimony as will lie on a shilling. This is very proper for any feeding swine, even though they have no disorder. A small quantity of the flour of brimstone, also may be given among their food when they are not thriving, which will be found of great service to them. But the best method of preventing disorders in swine, is to keep their sties perfectly clean and dry, and to allow them air, exercise, and plenty of clean straw.

Another.

Rub them all over with a stiff brush dipped in cold water, then boil parsley roots and rue in salt water and give it them to drink.

Rupture in swine.

When a number of swine are bred, it will frequently happen that some of the pigs will have what is called a 'rupture;' *i. e.* a hole broken in the rim of the belly, where part of the guts come out and lodges betwixt the rim of the belly and the skin, having an appearance similar to a swelling in the testicles. The male pigs are more liable to this disorder than the females. It is cured by the following means.

Geld the pig affected, and cause it to be held up with its head downwards; flay back the skin from the swollen place, and from the situation in which the pig is held, the guts will naturally return to their proper place. Sew up the hole with a needle, which must have a square point, and also a bend in it, as the disease often happens between the hinder legs, where a strait needle cannot be used. After this is done, replace the skin that was flayed back and sew it up, when the operation is finished. The pig should not have much food for a few days after the operation, until the wound begins to heal.

For a fever.

Let them blood in the tail, and give them thrice a day, water wherein pepper and parsnip roots have been boiled.

For the swine pox.

Take an ounce of nitre, pound it, and dissolve it in a pint of cider; add to it half a pint of sweet oil and one spoonful of honey, to be given to the swine luke warm.

For catarrhs.

Take two ounces of coriander seed, one of ginger, three of honey, and half an ounce of turmerick, let it be powdered fine and boiled in three quarts of new milk, then let the hog drink it.

Of drenches.

It is a practice among people in general, when their hogs are sick, to put a rope in their mouths and hang them up to drenching. This is a very bad practice—for while you are pouring your medicine down, the hog will squeak, and ten to one the liquid goes down the windpipe and choaks him. If you can give your hog his medicine in milk or some other food, that he will drink, it is well; if not, do not force it down in the manner of drenching but give it to him in the form of a glyster. This is always safe and as effectual as any method whatever.

Issues.

The issues in a hog, are places on the inside of their legs, which are porous, like a pepper-box top. Here it seems, is the most immediate outlet for the superfluous fluid of the body; when these get stopped (as hogs are fond of filth and mire) the hog loses his appetite, and becomes sick; then to drenching and choaking as before hinted; whereas, if his issues were rubbed and picked open he would immediately recover.

Fattening of Swine.

The Hon. Mr. Peters, of Pennsylvania, has asserted that fatting hogs should always be supplied with dry rotten wood, which should be kept in their pen, for the animals to eat as their appetites or instincts may direct. It has been supposed, likewise, that swine thrive better when they can obtain fresh earth, which they are observed often to swallow with greediness. The probability is that nature directs these creatures to the use of such substances as absorbents to correct the acidities of their stomachs. Charcoal, it is said by some, will answer a similar, if not more valuable purpose; and that if swine are supplied with this last mentioned substance they show but little inclination for rooting, and are much more quiet in their pens than under ordinary treatment.

Mr. Peters, and some other eminent agriculturists have asserted that food for swine is much the best for fattening them, when it has been soured by fermentation, and it is even supposed that one gallon of sour wash will go as far as two of sweet for this purpose. And an English writer tells us that "the best method of feeding all kinds of grain to hogs, is to grind it to meal, and mix it with water, in cisterns made for the purpose, in the proportion of five bushels of meal to a hundred gallons of water; the mass to be well stirred several times each day, until it has fermented and become acid, when it will become ready for use. In this way two or three cisterns must be kept for fermenting in succession; and the profit will pay the expense."

Hogs cannot be fattened so cheaply in very cold as in temperate weather, unless they are guarded with great care against the inclemency of the season. In the winter too, acid or fermented food cannot so well be procured for them, as the low temperature of the air will stop fermentation, if not freeze the wash under ordinary circumstances. The food for swine may be fermented by being kept in an apartment kept at near summer heat by a stove. The wash may also be kept warm by steam introduced according to Rumford's plan. But heating *liquids* by steam is not so easy a process as would seem at the first thought. There must be a large [that is large in proportion to the quantityof liquid to be warmed] and strong boiler, with two safety valves, one opening outwards to let out the steam if by the sudden icrease of heat, it should acquire so much elasticity as to endanger the bursting of the boiler; and one valve opening inwards to prevent the sides of the boiler from being collapsed, or crushed inward, or the liquid from being forced out of the cistern through the steam tube into the boiler by the weight of the atmosphere. Then there must be steam tubes rising some height above the surface of the wash in the cistern, and descending, vertically, to near its bottom. The steam must be so elastic as to overcome not only the pressure of the atmosphere, but also the additional pressure of that part of the liquid in the vessel, containing the wash, which lies above the opening or end of the tube where the steam is discharged into the vessel.

Various means may be used to give the wash a temperature conducive to fermentation. Water-tight tubes filled with hot air, from a furnace or a stove, might answer the purpose by being carried thro' the cistern containing the wash to be fermented. But for common farming purpose, we believe it will be best either to keep up a moderate degree of heat in the room or cellar in which the wash is kept for fermentation, by means of stoves, or to make use of kettles or caldrons set in brick in the common way, in which after the materials have been well boiled, the liquid must be kept of a proper temperature for fermentation, by occasionally heating them. Wooden vessels, or circular rims of wood, may be so adapted to the tops or rims of these kettles, that the whole will contain three or four times the quantity, which the kettles alone would hold. In these, roots and other food might be steamed and fermented, at the will of the owner or superintendant of the process. Where fermentation is the object, it may be well to mix with the sweet wash a little of that which is already soured, to serve as yeast or leaven.

The following system of rearing and fattening swine on an arable farm is recommended by a writer in the Farmer's Magazine. Upon a tillage farm consisting of three hundred acres, whereof two hundred are kept under the plough, he is of opinion that a considerable sum may be annually gained from keeping swine, were the arrangement made in a systematic manner. One main advantage of such a branch of rural economy arises from little or no capital being required to carry it on, while the trouble and outlay attending it scarcely deserve notice. With the addition of one acre of broad clover, and one acre of tares, for the summer and autumn months, and the like extent of ground for turnips and yams during the winter and spring months, this stock of swine may be amply supported.

Were two breeding sows kept on a farm of the size mentioned, and their produce reared by the farmer, it may be calculated that forty swine, weighing seven or eight stone each, would be annually fed off, in the months of January and February each year, the time when pork is most in demand. That such a number of swine can be supported and fed upon the offals of a three hundred acre farm, and other auxiliary articles specified, may be pronounced a certain fact.

The breeds, he recommends, are the hardly smaller sized varieties, but not the Chinese, or any of the pot-bellied sorts; because he has found that such breeds will thrive and grow fat where larger and finer breeds would starve.

In fattening for bacon and flitches the larger breeds are chosen; and in breweries, distilleries, oileries, and dairies, fed on grains, oil-cake, and milk; but where arable farmers keep swine of this description, as is the practice in some of the western counties, the method is to rear chiefly on raw potatoes and Swedish turnips, and to fatten on these roots, boiled or prepared by steam, with a mixture of oat, barley, or bean and pea meal. Their troughs should often be replenished with a small quantity of food at a time, and kept always clean; and their food changed occasionally, and seasoned with salt. If proper care be taken, says a late writer, a feeding pig should not consume more than six Winchester bushels of oats made into meal. It ought to be shelled before it is ground, the same as for family use, but need not be sifted.

In fatting sucking pigs all that is requisite is to keep the mother well lodged and nourished. Wean ed pigs when to be fatted are kept constantly on whey, or skimmed or butter-milk, with frequently an addition of pease or beans, or barley-meal Such good keeping not only makes them increase rapidly in size, but renders them fit for the butcher at an early age. Swine are sold to the butcher at different ages, and under different names; as pigs when a few weeks old; as porkers at the age of five or six months; and as full grown hogs at from eighteen months to two years old. The young pigs are commonly roasted whole; the porkers are used as fresh or pickled pork; and the full grown hogs are for the most part converted into ham and bacon. The demand for porkers, which for London in particular is very great, and which continues almost throughout the year, is chiefly supplied from the dairies within reach of that metropolis.

Of curing Pork and Bacon.

The curing or pickling of pork is carried on to a considerable extent at many of our sea-ports. The carcase is cut in pieces, and packed in casks or kits, made for the purpose, containing from one to two hundred weight. Salt is dissolved in water till the mixture be strong enough to swim an egg; it is then boiled, and, when cold, poured upon the pork: when the end of the cask is fixed in, the article is ready for being sent to market. Henderson, a late writer, has given particular directions for the curing of bacon, founded upon a long course of experience, which, therefore, deserves to be more generally known.

The curing of bacon is thus described by Henderson, after much experience. After the carcase has hung all night, lay it upon a strong table, or bench, upon its back; cut off the head close by the ears, and cut the hinder feet so far below the hough as will not disfigure the hams, and leave plenty of room to hang them by; then take a cleaving knife, and if necessary, a hand mallet, and divide the carcase up the middle of the back bone, laying it in two equal halves: then cut the ham from the side by the second joint of the back bone, which will appear on dividing the carcase; then dress the ham, by paring off the flank or skinny part, so as to shape it with a half round point, by clearing off any top fat that may appear; the curer will next take off the sharp edge along the back-bone with his knife and mallet, and slice off the first rib next the shoulder, where he will perceive a bloody vein, which he must take out, for if it is left in, that part is apt to spoil. The corners must be squared off where the ham was cut out.

In killing a number of swine, what sides you may have dressed the first day, lay upon some flags or boards, piling them up across each other, and giving each pitch a powdering of saltpetre, and then covering it with salt: proceed in the same manner with the hams, by themselves, and do not omit giving them a little saltpetre, as it opens the pores of the flesh to receive the salt, and, besides, gives the ham a pleasent flavor, and makes it more juicy. Let them lie in this state about a week, then turn those on the top undermost, giving them a fresh salting: after lying two or three weeks longer, they may be hung up to dry in some chimney, or smoke house; or, if the curer chooses, he may turn them over again without giving them any more salt, in which state they may lie for a month or two without catching any harm, until he has convenience for drying them. Henderson practised for many years the custom of carting his flitches and hams through the country to farm houses, and used to hang them in their chimnies, and other parts of the house to dry, some seasons, to the amount of five hundred carcases: this plan qe soon found was attended with a number of inconvenieces, and therefore he invented a smoke house.

Henderson's smoaking house is about twelve feet square, and the wall, about seven feet high: one of these huts require six joists across, one close to each wall, the other four laid asunder, at proper distances. To receive five rows of flitches, they must be laid in the top of the wall; a piece of wood strong enough to bear the weight of one flitch of bacon, must be fixed acrost the belly end of the flitch, by two strings, as the neck end must hang downwards; the piece of wood must be longer than the flitch is wide, so that each end may rest upon a beam; they may be put so near to each other as not to touch; the width of it will hold twenty-four flitches in a row, and there will be five rows, which will contain one hundred and twenty flitches; as many hams may be hung at the same time above the flitches contrived in the best manner we can. The lower end of the flitches will be within two and a half or three feet of the floor, which must be covered five or six inches thick with saw-dust, and must be kindled at two different sides; it will burn, but not cause any flame to injure the bacon. The door must be kept close, and the hut must have a small hole in the roof, so that part of the smoke may ascend. That lot of bacon and hams will be ready to pack up in a hogshead, to send off in eight or ten days, or a little longer, if required, with little less of weight.

After the bacon is salted, it may lie in the salt-house as described, until an order is received, then immediately hang it up to dry. Henderson found this smoke-house to be a great saving, not only in the expence and trouble of employing men to cart and hang it through the country, but it did not lose nearly so much by weight this process.

In the disposal of bacon, whatever is shipped for London market, or any other, both bacon and hams, must be packed into a sugar hogshead, or something similar, to hold about ten hundred weight. Bacon can only be cured from the middle of September, untill the middle of April.

AGRICULTURAL AND MISCELLANEOUS RECEIPTS.

OF GARDENS.

A kitchen garden, well stored with vegetables, is highly important to the farmer, as the use of these supersede the necessity of consuming much meat; a practice equally consistent with economy and good health. When we percieve that the food of the cottagers of Ireland, is principally milk and potatoes; that these are a race of people which are healthy, robust, well-made, with strong, quick, and ardent powers of mind; and when we perceive that those savage nations which, for want of other food, are obliged to subsist entirely on fish or other meat, are generally the most stupid, squalid, and ill-made; we certainly cannot draw conclusions in favor of eating great quantities of flesh.

It is advisable to have a close high fence round your kitchen and fruit-gardens. This, in the first place, renders every thing within it secure from pillagers; and also serves to keep out fowls. Another benefit, consists in keeping off the strong cold winds of the Spring, which are very injurious to the young plants, and also to the fruit, which is then about putting forth.

Dung that is old, and destitute of the seeds of weeds, ought only to be used in manuring a kitchen-garden, and the ground ought not to be ploughed, but deeply dug, for all vegetables which root deeply in the ground. Nothing further need be said, with regard to a kitchen-garden, than that a loose mellow soil, with a southerly exposure is the best; that it ought to be kept rich; that, as fast as weeds rise, they ought to be extirpated; and that no weeds ought to be suffered to go to seed within the garden.

If the garden be of a wettish or stiff soil, it will be greatly benefitted by being thrown up into high ridges in the Fall; at the same time, this will assist in destroying the seeds of weeds; but particularly in destroying insects which may be breeding in the soil.

To destroy Insects.

In some seasons the vegetables in our gardens are almost annihilated by worms of several species. Fall ploughing, or spading the ground just before frost sets in, and strewing the ground with fine salt in the spring some time before the seeds are sown, are said to be sovereign remedies against these petty but powerful depredators.

Some vegetables are offensive to all insects; such as the elder, especially the dwarf kind, the onion, tansy, and tobacco, except to the worm that preys on the plant. The juice of these may therefore be applied, with effect, in repelling insects; and sometimes the plants themselves, while green, or when reduced to powder, particularly the latter, when made into snuff.

Set an onion in the centre of a hill of cucumbers, squashes, melons, &c. and it will effectually keep off the yellow striped bug, that preys upon those plants while young.

No doubt a plant of tobacco, set in the same way, would answer a similar purpose; or, perhaps, to sow a few tobacco or onion-seeds in the hill, when planting, would have the same effect; and the growing plants from these seeds could be taken away, when no longer wanted as protectors.

Of other substances, sulpher is perhaps the most effectual, as every kind of insect has an utter aversion to it.

Powdered quick-lime is deadly to many insects, and perhaps offensive to all.

The same may be observed of soot, wood-ashes, and other substances which are strongly alkaline; and also of common salt finely powdered, brine, old urine, &c.

Calomel is also deadly to insects; and camphor, and terebinthene substances are offensive to them.

After premising thus much, we shall now speak of insects separately, and begin with the

Cankerworm.

The female of this insect comes out of the ground very early in the Spring, and ascends the tree to deposit her eggs, which she does in suitable places in the bark; where they are brought forth, and the young brood live on the leaves of the tree.

The only effectual remedy is, to prevent the insect from ascending the tree; and this may be done in various ways; but the easiest, perhaps, is as follows:

First scrape off the shaggy bark round the body of the tree, to the width of two or three inches;

then make up a mixture of oil, or blubber, with suitable proportions of sulphur and Scotch snuff; and with a brush lay this on the scraped part, forming a ring round the tree an inch or two wide; and no insect will ever attempt to pass this barrier, as long as the composition has any considerable moisture left in it.

Let it be repeated when it inclines to harden; though perhaps this is not necessary. Let it be done early in the Spring, before the insect comes from the ground.

Another method, which it is believed will be found equally effectual, though attended with more trouble, is to scrape off the shaggy bark from the body of the tree; and then whitewash that part well with lime and water and a little sulphur added.

In place of this, however, Mr. Forsyth directs that the body of the tree be covered with a composition of old urine, kept some time for the purpose, soap-suds, fresh cowdung; and this he says will keep off all insects. Let it be laid on plentifully.

Another method, we have heard reccommended is to fasten a strip of sheepskin, with the wool outwards, round the body of the tree, taking care that no place be left for the insect to creep up between the strip and the bark. The wool should be frequently combed to keep it loose.

A streak or ring of tar made round the body is also effectual, as long as the tar remains soft; but, as it soon becomes so hardened on the exterior, that the insect can crawl over, it requires to be repeated very frequently. Perhaps such a ring of tar and oil, or blubber, mixed together, would answer better.

Lastly, a strip of oiled paper put round the tree, with the lower edge projecting out considerably, forms a barrier which the insect cannot pass. Let the lower edge of the paper be kept wel oiled.

In regard to all insects which are injurious to trees, by climbing them, and committing depredations upon them, in various ways, we believe, from the most correct information we have been enabled to obtain, from various sources, tnat, by taking the earth away from the roots of the trees, very early in the Spring, and destroying whatever may appear to be the abode of any insects; and then returning the earth back, mixed with a small quantity of sulphur, sprinkling some of this upon the surface, will keep every insect from ascending any such tree.

The effect of sulphur, for this purpose, is very durable. Probably one operation of this kind will last for several years; though, on this point, we have no particular information. Other repelants of insects may be found repelants only for a time, more or less limited; but perhaps may answer the purpose for one Spring; such as quicklime, fine salt, old urine, strong soap-suds, a strong decoction of tobacco, onions, &c. &c.

Let either of the four last mentioned ingredients be applied, boiling hot, to the roots, after first taking the earth away, as before mentioned

Curculio.

This is a bug, about the size of that which eats into the pea, and has proved very troublesome to most of the smooth-skinned fruits, and even to peaches, apples, and pears, in different parts of the country contiguous to Philadelphia. It has also made its appearance about Albany.

It ascends the trees in the Spring, and as the fruit advances it makes a wound in the skin, and there deposits the embryo; from which a maggot is first produced. This preys upon the fruit until it dies and falls off; when the maggot makes its way into the earth, and is there changed into a bug, which is ready to ascend the tree the next Spring, and make its deposit in the fruit, as before.

One method of keeing this and all other insects from trees, as practised by Col. Nichols, near Easton, is to tie a small bag of common salt round the tree. A ring put round the tree, of a mixture of grease, or blubber mixed with salt and some of the other ingredients before mentioned, would perhaps answer a better purpose, and be attended with less trouble.

A recipe of his, which he says he has practised on peach trees with advantage, in regard to their health, is:

'Take away the dirt from around the root, and where you find gum issuing out, there you will also find a white maggot, which is carefully to be taken away; then wash the body and roots with strong brine, which you will repeat now and then in the Spring and Summer'

We will mention two other methods, which are said to be infallible, for keeping all insects from trees: One is, bore a hole in the body of the tree, and fill the hole with mercurial ointment (*unguentum coeruleum*)and cork it up tight.

The other is, bore a hole in the north side of the body of the tree, and fill it with spirits of turpentine, and cork it up, as before. Where the latter article is put into the hole, it should be bored slanting downwards, to keep this liquid from running out before the cork can be put in.

If these remedies are effectual, and we have considerable confidence in them, it must be owing to the essence of either of these substances becoming diffused throughout the tree, and thus rendering it noxious to insects.

Caterpillars.

The above directions, for keeping Canker-worms from trees, are equally applicable to these insects.

Grubs.

Large maggots produced from the eggs of a species of the Butterfly, very injurious to Indian Corn, while young, by eating the roots. Frequent ploughings, manuring the land with lime, soot, ashes, or salt, all tend much to keep them out of the soil.

Top or spindle-worm.

White worms, resembling Grubs, found in the central hole which is formed by the leaves of Indian corn; and they there eat off the stem which forms the top of the plant. They are mostly to be found near barn-yards, and in rich spots.

They are discovered by their excrement appearing on the leaves. Sprinkling the corn with a weak lye of wood-ashes will extirpate them.

Black Worms.

Ash-coloured worms, with black stripes on their backs. When full grown, they are of the thickness of a goose-quill, and about an inch and a quarter long. They hide in the soil by day, and commit their depredations by night. They eat off young plants above ground, and frequently endeavour to draw them under. It is said that manuring the ground with salt will drive them from it, and that lime and ashes will also have nearlv a similar effect.

Red Worms

These are slender, about an inch long, with a hard coat, and pointed head. They eat off wheat barley, and oats above the crown of the roots; and they also eat through turnips, potatoes, &c. No positive remedy is known, unless it be manuring with the manures before mentioned, which are offensive to all insects. Summer-fallowings are also recommended, as depriving them of their requisite food.

Palmer Worms.

About half an inch in length, with many legs, and very nimble. They give to apple-trees the same appearance that the Cankerworm does.

Mr. Dean says, that great numbers of them appeared, in the year 1791, in Cumberland Massachusetts, and ate off all the leaves of the trees, except the membraneous parts; but that next year they disappeared. They let themselves down from the trees by threads, similar to the Spider.

No remedy known.

Timber-worms

The smaller kind merely eat into the sap of wood, and turn it into powder-post, as it is commonly called. Felling timber about the middle of Winter, the time it has least sap in it, will obviate this difficulty.

The large Boring-worm takes its residence chiefly in pine timber. If the trees be scorched in a light flame, says Mr. Deane, or steeped in salt-water, it will destroy these worms, or prevent their entering the wood.

Hessian-fly.

Well known for its ravages in wheat. Remedy: Immerse the seed-wheat ten or fifteen seconds in boiling-hot water; cool it suddenly; dry it, with lime or gipsum sprinkled upon it, and sow it immediately. This process will assist its growth, in addition to its killing the nits of the fly, which, by a good glass, are said to be discernible near the sprouts of the grains that are infected. This remedy stands well attested by several publications, and is believed to be effectual.

Maggots.

Troublesome to the roots of cabbages, turnips, and radishes. Give the ground a previous manuring with salt, which it is believed will be found effectual. Some weak brine applied to the roots of the plants, just after a rain, is also recommended. It should not be too strong, lest it injure the growth of the plants.

Yellow-striped bug.

Formidable to the young plants of cucumber, &c. In addition to what has already been said, of the remedies for keeping off these intruders, we would recommend sprinkling the plants with a little sulphur, or Scotch snuff, which it is believed will be found equally efficacious.

Turnip-fly.

This insect eats the seed-leaves of the young turnip-plants, and thus destroys them. One remedy is, to sow the ground with a mixture of old and new seed, and, as these will come up at different times, a part of the one or the other will stand a better chance of escaping.

Sowing a suitable proportion of tobacco seed with the crop will, no doubt, answer every purpose for keeping off this insect. But, as common salt is found to be an excellent manure for this crop, we would recommend about three or four bushels of this article, made fine, with as many pounds of sulphur, and perhaps one or two of Scotch snuff, well mixed together, to be sown on the ground, just as the plants are coming up; and this, we venture to say, will be found effectual in keeping off these insects.

Garden-flea.

Very destructive to young cabbage plants, while in the seed-leaf. Remedy: Sow some onion or tobacco-seeds with the seeds of the plant; or, sprinkle some sulphur or snuff on the growing plants. Soapsuds sprinkled over them is also good.

Lice.

These infest cabbages, particularly; but are destroyed by the frosts. They are easily extirpated by smoak, particularly that of tobacco.

Weavel.

A little black bug, very destructive to wheat either in barns or graneries. On thrusting your hand into a bin of wheet infested with them, considerable warmth will be felt; but, as they are usually collected together, every part of the heap or bin should be examined.

Sulpher snuff, put up in little papers, or bags, and properly distributed among the wheat, in the bin, will keep them out, or drive them out when they have got possessioon.

Grass-hoppers.

Prodigious quantities of these are sometimes generated in upland mowing-grounds. Upland pastures do not produce so many, owing probably to the feet of the cattle destroying many, before they are brought forth. Low wet meadows or pastures seldom produce many of them. The only known remedy against them, and it is sometimes very inadequate, is to destroy them by raising large flocks of Turkies and other poultry, which feed on them.

Lice on cattle, and Ticks on sheep, may be added to the catalogue of destructive insects.

Where Colts and young Neat-cattle become lousy, by reason of poor keeping, or otherwise, the Lice are to be destroyed by oiling the creature, or washing it with a decoction of tobacco; and they should have better keeping, to prevent a return of the Lice.

And where a sheep becomes full of Ticks, which will sometimes kill the animal if not removed, they may be destroyed by a fumigation of tobacco smoke, as is described under Sheep.

But the easiest method is, to part the wool of the animal on each side of its spine, from its head to its tail, and drop in some Scotch snuff along in each opening, and this will soon free the Sheep of its vermin. Where it requires immediate relief, however, recourse should be had to the method first mentioned.

TO MANAGE A DAIRY.

Directions to the cow feeder.

Go to the cow-stall at 6 o'clock in the morning, winter and summer; give each cow half a bushel of the mangel-wurzel, carrots, turnips, or potatoes, cut; at 7 o'clock, the hour the dairy maid comes to milk them, give each some hay, and let them feed, till they are milked,—If she refuses hay, give her something she will eat, such as grain, carrots, &c. during the time she is milking, as it is absolutely necessary the cow should feed while milking. As soon as the woman has finished milking in the morning, turn the cows in the airing ground, and let there be plenty of fresh water, in the trough; at 9 o'clock give each cow 3 gallons of the mixture, (as under: to 8 gallons of grain add 4 gallons of bran or pollard;) when they have eaten that, put some hay into the cribs; at 12 o'clock give each 3 gallons of the mixture as before; if any cow looks for more, give her another gallon; on the contrary if she will not eat what you gave her, take it out of the manger, for never at one time let a cow have more than she will eat up clean.—Mind and keep the mangers clean, that they do not sour. At 2 o'clock give each cow half a bushel of carrots, mangel-wurzel, or turnips; look the turnips, &c. &c. over well, before giving them to the cows, as one rotten turnip will give a bad taste to the milk, annd most likely spoi a whole dairy of butter. At 4 o'clock put the cows into the stall to be milked; feed them on hay as you did at milking-time in the morning, keeping in mind that the cow whilst milking must feed on something. At 6 o'clock give each cow 3 gallons of the mixture as before. Rack them up at 8 o'clock. Twice in a week put into each cow's feed at noon, a quart of malt-dust.

☞The daily expense of subsisting each cow on the above feed will be about two shillings.

Directions to the dairy maid.

Go to the cow-stall at 7 o'clock; take with you cold water and a sponge, and wash each cow's udder clean before milking; dowse the udder well with cold water, winter and summer, as it braces, and repels heat. Keep your hands and arms clean. Milk each cow as dry as you can, morning and evening, and when you milk each cow as you suppose dry, begin again with the cow you first milked, and drip them each; for the principal reason of cows failing in their milk is from negligence in not milking the cow dry, particularly at the time the calf is taken from the cow. Suffer no one to milk a cow but yourself, and have no gossiping in the stall. Every Saturday night give an exact account of the quantity of milk each cow has given in the week.

To choose a milch cow.

As to a choice of breeds for a private family, none in England, (says Mr. Lawrence,) probably combine so many advantages as the Suffolk dun-cows They excel both in quantity and quality of milk; they feed well after they become barren:

they are small sized, and polled or hornless; the last a great convenience. The horns of cows which butt and gore others, should be immediately broad tipped. There is a breed of polled Yorkshire or Holderness cows, some of them of middling size, great milkers and well adapted to the use of families, where a great quantity of milk is required, and where price is no object, and food in plenty. If richer milk and a comparison of the two famous breeds be desired, one of each may be selcted, namely, the last mentioned, and the other of the midland county, or long horned species. Colour is so far no object, that neither a good cow nor a good horse can be of a bad colour; nevertheless, in an ornamental view, the sheeted and pied stock of the Yorkshire short horns, make a picturesque figure in the grounds.

The Alderney cows yield rich milk upor less food than larger stock, but are seldom large milkers, and are particularly scanty of produce in the winter seasons. They are, besides, worth little or nothing as barreners, not only on account of their small size, but their inaptitude to take on fat, and the ordinary quality of their beef.

To determine the economy of a cow.

The annual consumption of food per cow, if turned to grass, is from one acre to an acre and a half in the summer, and from a ton to a ton and a half of hay in the winter. A cow may be allowed 2 pecks of carrots per day. The grass being cut and carried, will economize it full one third. The annual product of a good fair dairy cow, during several months after calving, and either in summer or winter, if duly fed and kept in the latter season, will be an average of seven pounds of butter per week, from five to three gallons of milk per day.

Afterwards, a weekly average of three or four pounds of butter from barley, half the quantity of milk. It depends on the constitution of the cow how nearly she may be milked to the time of her calving, some giving good milk until within a week or two of that period, others requiring to be dried eight or nine weeks previously. I have heard (says Mr. Lawrence) of 20 lbs. of butter, and even 22 lbs. made from the milk of one longhorned cow in seven days: but I have never been fortunate enough to obtain one that would prodcue more than twelve pounds per week, although I have had a Yorkshire cow which milked seven gallons per day, yet never made 5 lbs. of butter in one week. On the average three gallons of good milk will make a pound of butter.

To manage young chickens.

The chickens first hatched, are to be taken from the hen, lest she be tempted to leave her task unfinished. They may be secured in a basket of wool or soft hay, and kept in a moderate heat, if the weather be cold, near the fire. They will require no food for 24 hours, should it be necessary to keep thom so long from the hen. The whole brood being hatched, place the hen under a coop abroad, upon a dry spot, and, if possible, not within reach of another hen, since the chickens will mix, and the hens are apt to maim and destroy those which do not belong to them. Nor should they be placed near young fowls, which are likely to crush them, being always eager for their small meat.

The first food should be split grits, afterwards tail wheat, all watery food, soaked bread, or potatoes, being improper. Eggs boiled hard, or curd chopped small, is very suitable for first food.

Their water should be pure and often renewed, and there are pans made in such forms, that the chickens may drink without getting into the water, which, by wetting their feet and feathers, numbs and injures them; a bason in the middle of a pan of water, will answer the end; tee water running round it. There is no necessity for cooping the brood beyond two or three days; but they may be confined as occasion requires, or suffered to range, as they are much benefitted by the foraging of the hen. They should not be let out too early in the morning, whilst the dew lies upon the ground, nor be suffered to range over wet grass, which is a common and fatal cause of disease in fowls. Another caution requisite is to guard them against unfavorable changes of the weather, particularly if rainy. Nearly all the diseases of fowls arise from cold moisture.

For the period of the chickens quitting the hen, there is no general rule, when she begins to roost, if sufficiently forward, they will follow her; if otherwise, they should be secured in a proper place, till the time arrives when they are to associate with the other young poultry, since the larger are sure to overrun and drive from their food the younger broods.

To fatten poultry.

An experiment has lately been tried of feeding geese with turnips cut in small pieces like dice, but less in size, and put into a trough of water; with this food alone, the effect was that 6 geese, each when lean weighing only 9 lbs., actually gained 20 pounds each in about 3 weeks fattening.

Malt is an excellent food for geese and turkeys, grains are preferred for the sake of economy, unless for immediate and rapid fattening: the grains should be boiled afresh.

Other cheap articles for fattening are oatmeal and treacle; barley-meal and milk; boiled oats and ground malt.

Corn before being given to fowls should always be crushed and soaked in water. The food will thus go further, and it will help digestion. Hens fed thus have been known to lay during the whole of the winter months.

Care of dropsy in the crops of young turkeys.

This kind of dropsy is announced by a dull look paleness of the head, loss of appetite, and aversion to food. The birds allow themselves to be approached and seized with facility, and they are without strength. Very soon a slight swelling of the crop is added to these symptoms, which, in ten days, becomes very considerable. I have taken nearly a pint of water from one. By pressing upon the crop of some of them, a certain quantity of matter is discharged by the bill, but never enough to entirely ease the crop. All these symptoms increase, and the bird dies at the end of 15 or 18 days' illness.

I sought after the cause of this disorder, and it was easy to find that it was occasioned by the stagnant water of which these animals drunk; in the course of the year the heat had been great, and there was little rain. The heat had hatched a vast swarm of small red worms, resembling ascarides. It is quite certain that these insects must have been swlalowed by the turkeys, and from this cause, and the bad quality of the water which they had drunk, a great degree of inflammation in the crop would ensue, with a stoppage of the passage which conducts to the gizzard. I divided the turkeys into three classes; for those who were still sound, I ordered grain and good water; with all that were diseased I pactised the operation of tapping with a lancet, in the lowest part of the crop. I injected at the opening, by means of a small syringe, a slight decoction of Jesuits' bark, mixed with a little brandy, which was repeated twice in the course of the day. Next day the wound was better marked. I made again the same injection, and, two hours after, I forced them to eat a little of the yolk of an egg, mixed with some crumbs of bread. At the end of three days, the wound in the crop was closed, which I might have prevented but finding a natural opening in the bill, I made them take, during eight days, in their drink, the same substances which had been injected; and they were, by degrees, put upon their usual diet. I need not add, that clear water was given them instead of that of the standing pools. Ten of these animals had died before my arrival; two perished during the treatment, and the rest of the flock, which might be about forty, either escaped the disease or were cured.

GRAFTING.

Mr. Forsyth describes several methods of grafting:

1 Grafting in the rind, which is proper only for large trees.

2 Cleft grafting, which answers well on small stock or limbs, and has been mostly practised in this country.

3 Whip-grafting, or tongue-grafting, which is also proper for small stocks only; and, as Forsyth says, is the most effectual of any, and the most in use in Great-Britain.

4 Inarching, or grafting by approach. This is done where the stock to be grafted on, and the tree from which the graft is taken, stand so near together that they may be joined.

Forsyth says, that grafts, or scions, should be cut off from the trees before the buds begin to swell; that they should be laid with the cut end downwards, and buried half their length in earth, having the tops covered with litter, to prevent their drying too much; that they should be all of the growth of the former year; that they should always be taken from healthy, fruitful trees; for, if taken from sickly ones, the grafts often partake of the distemper; that, if taken from young luxuriant trees, they may produce luxuriant shoots; but will not be so productive, as those taken from fruitful trees; that those which are taken from lateral, or horizontal branches are to be preferred to those of the strong and perpendicular shoots; and that none should be taken from the sprouts of trees.

Mr. Forsyth prefers the whip-grafting, for common cases; but, for these, Mr. Deane prefers the cleft-grafting. This, he says, is most commonly practised in this country, and is attended with success. It is done on the stocks in the nursery, or on the small limbs of trees. The proper season for it is just before the leaves begin to open. The head of the stock must be cut off sloping, and a slit made sloping the opposite way, deep enough to recieve the scion, which should be cut like a wedge, with the outside thicker than the inner.

The rind of the scion must exactly join the rind of the stock. The slit should be opened by a wedge of hard wood; the scion should then be gently put in its place and the stock closed. After this, the whole must be daubed round closely with a mortar made of a mixture of loom and fresh horse-dung, so as completely to exclude the access of air; and this mortar must be surrounded with a winding of tow, or old cloths, to prevent the rains from washing it away. The scion should be covered nearly to the top with this mortar; and it should also extend two or three inches downwards round the stock.

In place of this mortar, Forsyth recommends a plaister made of pitch, turpentine, and beeswax, which is in like manner to de daubed closely round so as to exclude the external air. The mortar, however, if well made, and well applied, will answer very well. It should be composed of fine loam, not clay; because clay will contract and crack open, when dried.

Cleft-grafting may be successfully performed on trees, where the fibre of the outer bark runs round; such as the peach, plumb, cherry, &c. by first cutting through that bark, with a knife, at the place where the cleft is to be made, and in the same direction it may be expected to run; when the rest of the operation may be as easily performed as on other trees.

Whip-grafting is performed by cutting off the head of the stock sloping; then making a notch in the slope, from the upper part downward, a little more than half an inch deep, to recieve the scion, which must be cut with a slope upward, and a slit made in this like a tongue, which is to be inserted into a slit made in a slope of the stock; and the scion is then set in, so that the rinds of each join exactly together. The scion is then fastened by a ligature to keep it steady, and then surrounded with mortar, or the plaster, as before.

Grafting in the rind is performed by cutting off the stock square; slitting down the bark a small distance, and raising it up, so that the end of the scion may be inserted between it and the wood: the scion is made with a shoulder, cut in about half its thickness, and the other half is sloped off gradually, so as to give it the form of a wedge; the cut side being flat and the bark-side being untouched. This wedge or tongue is inserted under the bark, with the shoulder fitted to the stock; the raised bark is then pressed close and bound round, and the plaster is applied, as before mentioned. It is usual, in this case, to insert three or four scions in one stock.

Mr. Preston, of Pennsylvania, says he has grafted scions which came from Holland, which were apparently dried, and they grew; but that he failed in other instances, where the bark of the scions appeared to have become somewhat rotten.

He was also successful in grafting scions of the appletree, as late as the twentieth of June, when the leaves of the trees were full grown.

Management of Bees.

Swarming depends on the increase of bees, and a queen being ready to lead them. Their breeding begins sooner or later according to the forwardness of the spring, the fruitfulness of the queen, and the populousness of the hive. When bees carry in farina or pellets on their thighs, it denotes they have commenced breeding, which may be as early as February, and not finish till October; and when their numbers are much increased they show indication of swarming, by their clustering in great quantities below the resting board.

They never rise but on a fair day, and sometimes will settle, and for some cause return to the stock, probably for want of a queen being with them. Some hives will cast three times, but mostly only twice. The second cast may be expected within three or four days, and never later than ten days after the first. Should a stock overswarm itself it will perish, unless strengthened; this may be ascertained by observing the quantity of bees afterwards seen to enter. It is necessary in the swarming season from April to July, particularly in May and June, to observe the hives on a fine day; in general the bees issue forth about noon—from 9 to 2 o'clock or about 3 in the afternoon.

To hive bees.

Bee keepers should have spare hives by them, prepared to hive the bees as soon as they are settled: for should the sun shine hot on the swarm it may take another flight and may possibly be lost entirely. The manner of hiving them must be regulated by the nature of the place on which they settle. The custom of preparing hives varies; a clean new hive only requires the loose straw to be rubbed off with a cloth: if any dressing be used, fennel dipped in ale and sugar will best answer the purpose. Have ready a cloth whereon to place the hive, and a wedge to raise it: if the swarm should settle on a branch, shake the best part of it into the hive, place it on the cloth on the ground. and continue to disturb the swarm where it settled, and the hive being left underneath, they will all go in; or cut the branch off, and gently place it in the hive. Should the bees settle on the ground, place the hive over them; and though bees are not apt to sting at this time, the hiving should be performed quietly. Avoid talking and breathing on them, and if any of them are crushed, they will resent it; therefore, to prevent accident, invariably use the bee dress, which will give confidence. All swarms are to be sheltered and left near to where they settle till the evening; thence to be removed very gently to the appointed place.

To unite swarms, and reinforce stocks.

It is essential when there are weak swarms of bees, that they should be strengthened. The idea, so prevalent, of the greatest number of hives producing the most honey and wax, is erroneous; for the great part of the bees are necessarily employed in rearing the young, and therefore the number of those who are occupied in collecting honey is not near so great as has been imagined: for every swarm, the least as well as the greatest, is provided with a queen, equal in fecundity to the queen of the larger stock, and as the brood she brings continually demands the labour and attendance of nearly half the bees, this circumstance renders the other moity, from the smallness of their number, unable to accumulate a large quantity of honey in the short time it mostly abounds, and therefore honey cannot be obtained in glass hives or otherwise, but from a strongly-peopled hive.

Hive the swarms or casts in the usual way, and at about 8 o'clock the same evening spread a cloth on the ground, near to the hive required to be reinforced; bring the new swarm, and strike it down rather hard, flat on the ground. The bees will then fall in a cluster; quickly place over them the stock to be reinforced; in ten minutes they will have united and become as one family, to be removed the same evening to its former situation.

Or, each cast or swarm may be hived seperately. In the evening, turn the crown of the hive into a pail, and set the other hive exactly over it; in the morning, the bees from the bottom hive will have ascended.

The system of uniting, so very important, is but little practised, and has been overlooked by many cultivators; but it is absolutely necessary to have the hives well peopled and completely sheltered from wet, which are the principal and main objects to be particularly attended to in the art of bee keeping; and the advantages of uniting swarms will be found particularly beneficial in working the glasses with the newly invented double-topped hives.

To feed bees.

With the aid of feeding it is perfectly easy to bring any hive of bees through the winter; but to ensure the success of a very light stock, it is essential to keep it always warm and dry. Feeding is absolutely necessary when more honey has been taken than the hive can afford, by means of small hives or glasses. Such stocks as are intended to be kept through the winter should weigh twenty pounds or upwards, at the end September, but casts and late swarms seldom attain this weight, unless two or more should have been united. The composition for feeding consists of moist sugar and new beer, the proportion of one pound of sugar to a pint of beer, simmered to the consistency of treacle: to be inserted into the hives, by means of small troughs, at night, and removed the next morning early. Should a hive be very poor and weak, it is better to feed in larger quantities each time.

To manage honey.

To judge of the best honey, it should be of a bright pale color, thick, and a little aromatic. To obtain it from the combs in its pure state, it must be left to run from them without pressing. The colour shews whether it is fine or inferior. If wanted to press some in the comb, choose the fairest and such as have not been broken: wrap each comb in white paper, such as lines the blue cover of loaf sugar. Set it edgeways as it stood in the hive, and it may be preserved many mouths The combs meant to be drained, must be cut in slices. Lay them on a hair-search, supported by a rack over the jar, in which the honey is to remain; for the less it is stirred after draining, it keeps the better. Fill the jar to the brim, as a little scum must be taken off when it has settled. A bladder well washed in lukewarm water, ought to be laid over the double fold of white paper with which it is covered.

To take the honey without destroying the bees.

The following easy method of taking the honey without destroying the bees, is generally practised in France. In the dusk of the evening, when the bees are quietly lodged, approach the hive, and turn it gently over. Having steadily placed it in a small pit, previously dug to receive it, with its bottom upwards, cover it with a clean new hive, which has been properly prepared,with a few sticks across the inside of it, and rubbed with aromatic herbs. Having carefully adjusted the mouth of each hive to the other,so that no aperture remains between them, take a small stick, and beat gently round the sides of the lower hive for about ten minutes, or a quarter of an hour, in which time the bees will leave their cells in the lower hive, ascend, and adhere to the upper one. Then gently lift the new hive, with all its little tenants, and place it on the stand from which the other hive was taken. This should be done some time in the week preceding midsummers day, that the bees may have time, before the summer flowers are faded, to lay in a new stock of honey, which they will not fail to do for their subsistence through the winter.

To manage bees generally.

The best situation for bees is to the north, with a range of hills wooded on the summit, and toward the base, enriched with heather, skirted to the east with a stream from the rocks. To confine this rivulet, the bee-master should sow the sandy beach with the seed of furze, and cover it with a light surface of earth. The furze would soon vegetate; and blooming, in the course of three years, overpay his labour, by providing the bees with pasture on soil otherwise barren, and the margin of the brook would gradually rise to restrain its encroachment on fertile lands. Suppose a white clover field to the south of the hills, and south from the field a large garden, where hardy winter greens have been allowed to flower, as early food for the bees. White mustard should also be sown very early in patches near the hive; but not nearer than one yard. A few dwarf flowers may come within two feet, but tall grown ones would assist insects to get up. To the west, it would be desirable to have a shrubbery, a wood, a broomy common, or heather moor.

The stations for the hives must be six yards asunder, and never nearer than three yards. The board on which they are placed ought to be of one piece; or if joined, the under side of the joining should be lined with a thinner board fixed closely with wooden pins. The edges of this rounded standard should project four inches all round from the hive. Place it on three wooden pillars sixteen inches long, ten inches above the ground, but six inches of its length should be firmly thrust into the earth, in all its length to be sixteen inches. The pillar in front should be an inch shorter than the other two, and the three pillars should be within twelve or fourten inches of the outer edge of the board, to exclude rats and mice. For the same reason no tall growing plant,no wall,nor any means for ascent should be within three or four feet of the hive. In fine weather, the entrance to the hive must be four inches long, and an inch and a half in depth.

In the beginning of the fine seaon, when the bees can get food, or have stores remaining, the beemaster has nothing to do but to keep the ground about the hive clear from weeds, and from whatever might enable vermin to climb there. Yet as a thriving stock inclines very soon to swarm, the hives must be frequently looked after, from eight in the morning till five in the afternoon. The symptoms are gensrally thus: The little city seems crowded with inhabitants.—They are continually in motion during the day; and after working-time, they make loud noises. The drones may be seen flying about in the heat of the day, and the working bees go with a reeling motion and busy hum. When the bees come regularly out of the hives, let no noise, no interruption incommode them: but if they fly long, as if they were unsettled, some tinkling noise or the loud report of a gun, will make the fugitives repair to the nearest lodgings. If there is an empty hive with combs and some honey in it, they will readily go there. If a new hive is used, remember to smooth it well within, and singe off loose straws. Perpendicular sticks should never be employed. Four cross sticks at equal distances will support the combs. Old hives do very well for late swarms that are not to be preserved through the winter; but box hives are best for them, as the bees work fastest there. They are not, however, fit for being kept through the cold seasons.

It is to be observed that great haste in forcing a swarm into the hive may disperse them. Give them time to settle undisturbed, though keep a steady eye on their motions: but whenever they gather into a cluster, lose no time in placing the hive over them. If the swarm rest on any thing that can be brought to the ground, spread a clean linen cloth: lay two sticks on it, two feet assunder; lay the body on which the swarm have fixed, gently on the sticks; covering it with the hive by a motion the least perceptible; and taking care that the edges of the hive rests upon the sticks. Cover hive and all with a cloth; for the sun might allure the bees to rise again. When they have gone into the hive, cover it with its own board, and carry it cautiously to its station. Bees are apt to leave their hive even after they begin to work, so they must be watched till evening, and throughout the ensuing day. Whenever they are sure to remain, fix the hive to its board with a little lime round the edges; and crown it with green sods to keep out too great heat or rain.

If a hive divides into two swarms, it is a sign that each swarm has a queen. Put each into old hives or boxes; but they must be kept separate.—If a cluster of bees about the size of a small plum are seen together, the queen will generally be found there. Separate them, and wtih a drinking glass turned down, you may seize the queen. Put her, and a score or two of her subjects into a box full of holes, large enough to admit air, and yet not to allow the bees to escape. Feed her with honey combs, and keep her in reserve in case of the death of a queen in one of the hives. When a hive ceases to work, it is a sure sign the queen is no more. Then the bee-master may wait an hour and not see a loaded bee enter the habitation. But if the spare queen be taken late in the evening, wetting her wings to prevent her escape, and introduce her to the desponding society, they will receive her gladly, and begin to work.

If a hive fights among themselves, be assured there are two queens: and they will destroy each other, if one is not taken away to keep.

When bees are to swarm a second, or more times, they do not come out in clusters: but they make a sound called bellings, which may be heard; ceasing for a little, and renwed again and again. If there are different tones, it is certain there are several young queens in the hive. It is only by putting the ear close to it, that the sound can be heard distinctly.

Preserving Meats.

If meat be intended merely for family use, and to be used in two or three months, the following pickle deserves to be recommended:—Water, one gallon; salt, nineteen ounces; salt petre, one ounce and a half; sugar, half pound.

The Russians are fond of the flavor of juniper berries, and add a pound of bruised juniper to a gallon of pickle.

A tea-spoonful or two of cayenne pepper to the gallon, greatly increases the preserving power of the pickle.

To cure gammons, first sprinkle them as soon as they are cut and trimmed, with a little (Liverpool) salt. Let them lay together for twelve hours: take them out of the tub, drain and wipe them; then rub them separately with a mixture of twelve parts of common salt and one part salt-petre, well dried and then ground fine. Rub in this mixture well; lay them in the pickling tub, and the next day rub them again with a similar mixture. The day after fill up the tub with a brine made in the proportion of 18 oz. salt, 1 lb. molasses, and 1 oz. salt petre, to the gallon of water. In this pickle they may stay for a fortnight. Then take them out, drain, wipe and smoke them.

If they are suffered to make their own brine by means of dry salt and salt petre entirely, they will loose too much of the juices of the meat, and become hard and dry.

I have sucsessfully cured beef in summer thus:

I killed an ox in the middle of August, at nine o'clock in the evening; it was cut up at 3 o'clock in the morning. The pieces were quickly rubbed with a mixture of ten parts of salt, and one part of salt petre, and put into a barrel. In the mean time a brine composed of 1 1-2 lbs. of salt, 2 oz. of salt petre, and half an ounce of common pepper, to the gallon of water, was ready over the fire, and when the beef was all packed in the barrel, it was poured on boiling hot. This prevented and destroyed all fly-blows. In a week, the pieces were taken out, drained anp wiped; the pickle was boiled over again, scummed, and again poured boiling hot on the meat when re-packed. The process answered the purpose perfectly.

A method of preserving cream.

Take twelve ounces of white sugar, and as many grains of finely powdered magnesia, and dissolve them in a small quantity of water, over a moderate fire. After the solution has taken place, 12 oz. of new cream should be immediately added, and the whole uniformly mixed while hot. Let it then gradually cool, and pour it into a bottle, which must be carefully corked. If kept in a cool place, and not exposed to the air, it may be preserved in a sweet state for several weeks, and even months.

To prevnet bottled cider from bursting.

Make a strong frame of plank, say, 1 1-2 or 2 inches thick and nine deep, by locking it together edge-wise, place it in the cellar, and sit the bottles of cider in it, (after being well corked) as close as possible, until it is entirely filled, except the space for one bottle, which must be left to commence taking them from, when wanted for use. Then put clean sand on them, and settle it between the bottles, by throwing on alternately water and sand, until the sand is well settled half way up the neck of the bottles. In that situation the bottles will be preserved, filled with the very best cider for any length of time.

By placing ice on the sand over the quantity of bottles proposed to be used a day, it will be as if put into ice water.

To prevent Skippers in Bacon.

Take of red pepper finely powdered one table spoonful for every joint of meat, and rub it on the meat with the salt, when it is first cut up. It has been often tried, and was never known to fail in producing the above effect.

Extirpating Rats and Mice.

Lay bird lime in their haunts; for though they are nasty enough in other respects, yet being very curious of their fur, if it is but daubed with this stuff, it is so troublesome to them, that they will even scratch their skins from off their own backs to get it off; and will never abide in the place where they have suffered in this manner.

To make a Pickle or Brine for Beef.

To eight gallons of water add half a pound of salt-petre, one pound of brown sugar, and one quart of molasses, with as much fine salt as will make it float an egg light, taking care that the salt dissolves lest it be too strong—skim it well and it is fit for use.

Your beef or tongues should be put in cold water and remain 24 hours, then drained or an hour or two, previous to being put into the pickle.

Beef tongues, veal, or mutton for smoking should not remain longer in pickle than ten days.

This pickle need not be boiled, (which operation tends to harden the meat) but will remain perfectly sweet till spring, when, after your beef is used or taken out, it will be found the very best in which to cure shad, giving them a delicious flavor, and fine red colour throughout.

This receipt is offered with confidence to the Farmer, as one of the very best ever adopted And it is the opinion of the writer, will answer fully as well for pork, with the exception that the latter should not be soaked in water.

Manner of preserving Eggs perfectly fresh for twelve months.

Having provided small casks like oyster barrels, fill them with fresh laid eggs, then pour into each cask, the herd being taken out, as much cold thick lime water as will fill up all the void space between the eggs, and likewise completely cover them. The thicker the lime water is the better, provided it will fill up all the interstices, and be liquid on the top of the cask. This done lay on the head of the cask lightly. No farther care is necessary, than merely to prevent the lime from growing too hard, by adding occasionallp a little common water on the surface, should the lime appear to be growing hard, and keeping the casks from heat and frost.

The eggs, when taken out for use, are to be washed from the adhereing lime in a little cold water, when they will have the appearance and qualities of fresh laid eggs, the lime preserving them from shrinking or putridity.

To preserve hams,. or other smoked meat, through the summer.

Wrap up the meat in tow, of either flax or hemp, after shaking out the loose shives, and pack it in a tierce or barrel, taking care that there be next the tierce and between every piece of meat, a thick layer of tow packed in as close as possible; then set it away in a dry cellar or upper room. It is enough that the barrel or tierce be sufficient to keep the mice out, as no fly or insect will enter the tow.

Tow and flax are such bad conductors of heat, that a piece of ice will be preserved a long time wrapped up in tow. Cut straw also answers extremely well to keep hams in. Ashes are apt to communicate a bad taste to meat. Care should be taken to prevent the flies from having access to the meat before being packed away.

Preservation of butter.

One part of loaf sugar, one part refined salt petre, two parts of the best pure salt are to be pulverised together and kept for use, one ounce of this to be mixed thoroughly with 16 ounces of the butter as soon as it is freed from the butter milk; it is then to be put into a close and perfectly clean dry vessel, from which the air is to be carefully excluded, and it will remain good for many years

To cultivate hemp.

The soil.

The soils most suited to the culture of this plant, are those of the deep, black, putrid, vegetable kind, that are low, and rather inclined to moisture, and those of the deep, mellow, loamy, or sandy descriptions. The quantity of produce is generally much greater on the former than on the latter; but it is said to be greatly inferior in quality. It may, however, be grown with success on lands of a less rich and fertile kind, by proper care and attention in their culture and preparation.

To prepare the ground.

In order to render the grounds proper for the reception of the crop, they should be reduced into a fine mellow state of mould, and be perfectly cleared from weeds, by repeated ploughing. When it succeeds grain crops, the work is mostly accomplished by three ploughings, and as many harrowings; the first being given immediately after the preceding crop is removed, the second early in the spring, and the last, or seed earth, just before the seed is to be put in. In the last ploughing, well rotted manure, in the proportion of 15 or 20, or good compost, in the quantity of 25 or 33 horse cart loads; as without this it is seldom that good crops can be produced.

The surface of the ground being left perfectly flat, and as free from furrows as possible; as by these means the moisture is more effectually retained, and the growth of the plants more fully promoted.

Quantity of seed, &c.

It is of much importance in the cultivation of hemp crops, that the seed be new, and of good quality, which may in some measure be known by its feeling heavy in the hand, and being of a bright shining colour.

The proportion of seed, that is most commonly employed, is from two to three bushels, according to the quality of the land: but, as the crops are greatly injured by the plants standing too closely together, two bushels, or two and a half, may be a more advantageous quantity.

As the hemp plant is extremely tender in its early growth, care should be taken not to put the seed into the ground at so early a period, as that it may be liable to be injured by the effects of frost; nor to protract the sowing to so late a season, as that the quality of the produce may be affected. The best season, on the drier sorts of land, in the southern districts, is, as soon as possible after the frosts are over in April, and, on the same discriptions of soil, in the more northern ones, towards the close of the same month, or early in the ensuing one.

Method of sowing.

The most general method of putting crops of this sort into the soil is the broadcast, the seed being dispersed over the surface of the land in as even a manner as possible, and afterwards covered in by means of a very light harrowing. In many cases, however, especially where the crops are to stand for seed, the drill method in rows, at small distances, might be had recourse to with advantage; as, in this way the early growth of the plants would be more effectually promoted, and the land be kept in a more clean and perfect state of mould, which are circumstances of importance in such crops. In whatever mothod the seed is put in, care must constantly be taken to keep the birds from it for some time afterwards.

This sort of crop is frequently cultivated on the same pieces of ground for a great number of years, without any other kind of intervening; but, in such cases, manure must be applied with almost every crop, in pretty large proportions, to prevent the exhaustion that must otherwise take place.—It may be sown after most sorts of grain crops, especially where the land possesses sufficient fertility, and is in a proper state of tillage.

After culture.

As hemp, from its tall growth and thick foliage, soon covers the surface of the land and prevents the rising of weeds, little attention is necessary after the seed has been put into the ground, especially where the broadcast method of sowing is practised; but, when put in by the drill machine, a hoeing or two may be had recourse to with advantage in the early growth of the crop.

In the culture of this plant, it is particularly necessary, that the same piece of land contains both male and female, or what is sometimes denominated simple hemp. The latter kind contains the seed.

When the crop is ripe, (which is known by its becoming of a whitish yellow colour, and a few of the leaves beginning to drop from the stems; this happens commonly about thirteen or fourteen weeks from the period of its being sown, according as the season may be dry or wet, the first sort being mostly ripe some weeks before the latter:) the next operation is that of taking it from the ground, which is effected by pulling it up by the roots, in small parcels at a time, by the hand, taking care to shake off the mould well from them before the handsful are laid down. In some districts, the whole crop is pulled together, without any distinction being made between the different kinds of hemp; while, in others, it is the practice to separate and pull them at different times, according to their ripeness. The latter is obviously the better practice; as by pulling a large proportion of the crop before it is in a proper state of maturity, the quantity of produce must not only be considerably lessened, but its quality greatly injured by being rendered less durable.

After being thus pulled, it is tied up in small parsels, or what are sometimes provincially termed baits.

Where crops of this kind are intended for seeding, they should be suffered to stand till the seed becomes in a perfect state of maturity, which is easily known by the appearance of it on inspection. The stems are then pulled and bound up, as in the other case, the bundles being set up in the same manner as grain, until the seed becomes so dry and firm as to shed freely. It is then either immediately thrashed out upon large cloths for the purpose, in the field, or taken home to have the operation afterwards performed.

Process of grassing hemp.

The hemp, as soon as pulled, is tied up in small bundles, ferquently at both ends.

It is then conveyed to pits, or ponds of stagnant water, about six or eight feet in depth, such as have a clayey soil being in general prefered, and deposited in beds, according to their size and depth; the small bundles being laid both in a straight direction and cross-wise of each other, so as to bind perfectly together; the whole being loaded with timber, or other materials, so as to keep the beds of hemp just below the surface of the water.

It is not usual to water more than 4 or 5 times in the same pit, till it has been filled with water. Where the ponds are not sufficiently large to contain the whole of the produce at once, it is the practice to pull the hemp only as it can be admitted into them, it being thought disadvantageous to leave the hemp upon the ground, after being pulled. It is left in these pits four, five, or six days, or even more, according to the warmth of the season, and the judgment of the operator, on his examining whether the hempy material readily separates from the reed or stem; and then taken up and conveyed to a pasture field, which is clean and even, the bundles being loosened, and spread out thinly, stem by stem, turning it every second or third day, especially in damp weather, to prevent its being injured by worms, or other insects. It should remain in this situation for two, three, four, or more weks, according to circumstances, and be then collected together when in a perfectly dry state, tied up into large bundles, and placed in some secure building, until an opportunity is afforded far breaking it, in order to separate the hemp. By this means the process of grassing is not only shortened, but the more expensive ones of breaking, scucthing, and bleaching the yarn, rendered less violent and troublesome.

After the hemp has been removed from the field, it is in a state to be broken and swingled, operations that are mostly performed by common labourers, by means of machinery for the purpose, the produce being tied up in stones. The refuse, collected in the latter processes, is denominated sheaves, and is in some districts employed for the purposes of fuel. After having undergone these different operations, it is ready for the purposes of the manufacturer.

Fruit trees.

The seeds of a nursery should be planted in rows five or six feet apart, that carrots, potatoes, or bush beans may be planted between them. This will be an inducement to keep the nursery clean Cherries, peaches, plumbs, and other stone fruit, should be planted while the stones are moist, or with the meat on them. In this way they come up with more certainty. It is a good practice to plant the seeds in beds, and to remove the young trees to the nursery. This will give an opportunity of early removing the tap root, and of increasing and directing the lateral roots. The dwarfs in a nursery are not worth cultivating, and ought to be removed; there are commonly enough thrifty trees without them.

In taking up trees, care should be used not to injure the roots. The tap roots should be cut off, the broken roots pruned with a sharp knife, and the lateral roots should be carefully preserved, and should have sufficient room in the ground to spread. The trees when set out should have the same aspect, as when standing in the nursery. It is useful to place a small quantity of hay or straw around them, to prevent the sun from taking up too much of the moisture, and to keep the ground from becoming dry and hard. This should be removed before snow falls, lest it harbour mice.

On dry land, not exposed to be moved by frost, transplanting is safest and best in autumn; otherwise in the spring. Trees are more thrifty, will bear sooner, and more plentifully, near fences, and will less incommode the cultivation of the field.

In forming the head of the tree, all the limbs, which will be likely to rub across other limbs. should be early removed. By neglecting to do this in season, the tree may be injured by causing large wounds. By pruning when the circulation is most active, the wounds will soonest be healed.

It is safest, when the wounds are large, to cover them with some kind of plaister to keep out the water and air, and prevent rotting. Mature trees, it is said, will produce more and fairer fruit by being pruned when in blossom.

When mice have injured the bark, it is useful to cover the wound with dirt, or some kind of plaster. When entirely girdled, the tree may be preserved by connecting the under and upper lips of the bark with a suitable number of scions. It is a good preservation against injuries by mice, to tread down the snow, when it first falls, for a foot or two about the tree."

How to produce the best of Fruit.

Take a scion from a tree, the growth of the preceding year, of the choicest fruit to be found —cut this scion into pieces of two, three or four inches in length, dip the ends cut into warm rosin so as to prevent the sap issuing out—plant the pieces in soil suitable for an orchard. A number of shoots will spring up; from these select the most thrifty for growth, lop down the remaining shoots and cover them faithfully with earth, and in a short time they will become roots to nourish and hasten the growth of the tree. An orchard may be produced in this manner at least two years sooner than from the seed.

Recipe for making good yellow Butter.

A gentleman from Scotland has lately called at this office and requested us to promulgate the following recipe for the benefit of those farmers who supply our market with butter.—He was led to make the suggestion in consequence of having noticed that our butter made after the cattle are put to hay, is almost universally white. He says that in his country the dairy women avoid this by grating some orange carrots, the juice of which, after being strained, is mixed with the cream previous to churning. Butter thus manufactured acquires not only a beautiful yellow colour, but a flavor which adds greatly to its value. The quantity of carrot juice necessary to be used for this purpose may easily be ascertained: indeed the judgment of the manufacturer cannot fail to suggest very nearly the quantity necessary to give it a proper colour.

Art of dressing Flax so as to resemble Silk, as practiced in Germany.

Take one part of lime, and between two and three parts of wood-ashes; pour over them a due proportion of water to make a strong and sharp lie after they have stood together all night, which must be poured off when quite clear. Tie handfulls of flax at both ends, to prevent its entangling, but let the middle of each be spread as oden as possible, in a kettle, on the bottom of which has first been placed a little straw with a cloth over it.

Then put another cloth over the flax, and so continue covering each layer of flax with a cloth till the kettle be nearly full. Pour over the whole the clear lie, and after boiling it for some hours take it out, and throw it in cold water. This boiling, &c may be repeated, if judged requisite.

The flax must be each time dried, hackled, beaten, and rubbed fine; and, at length, first dressed through a large comb, and then through a very fine one. By this process the flax acquires a beautifully bright and soft thread. The tow, which is beaten off, when papered up and combed like cotton, is not only used for many of the same purposes, but makes an excellent lint for wounds.

Mode of whitening Straw.

In 1806, a new method of whitening straw was discovered in Germany. This consists in steeping it in muriatic acid saturated with potash. The straw, thus prepared, never turns yellow, is of a shining white, and acquires great flexibility.

Preserved Strawberries.

To one pound of ripe strawberries put one pound of powdered loaf-sugar, laying alternately on a deep dish-layer of each. Let them remain thus for twenty four hours, when boil them in a sirrup till they are all of a colour. In order to determine when they are done enough, cut one of them open. Then, taking them out, boil the sirrup to the consistence of a jelly, let it remain till cool, then put in your strawberries, and let them boil up once; take them off, and when cool, put them into a pot for use.

Hop-Beer.

For a half barrel of beer take half a pound of hops and half a gallon of molasses; the latter must be poured by itself into the cask. Boil the hops, adding to them a teacupfull of powdered ginger, in about a pailful and a half of water, that is, a quantity sufficient to extract the virtue of the hops.

When sufficiently brewed, put it up warm into the cask, shaking it well in order to mix it with the molasses. Then fill it up with water quite to the bung, which must be left open to allow it to work. You must be careful to keep it constantly filled up with water whenever it works over. When sufficiently wrought to be bottled, put about a spoonful of molasses into each bottle.

Rules to be observed regarding the improvement of waste lands.

In the cultivation of wastes, the following rules are laid down by the most successful improvers.

1. Not to put in practice any scheme of improvement, without the fullest deliberation, nor without the command of an edequate capital.

2 Not to begin on too great a scale, nor until, by experiment it be found, that the design is suitable to the soil, situation and climate.

3. When the intention is to cultivate peat-moss, not to begin cropping, till at least one season after the drains are completed, and the soil thoroughly reclaimed from superfluous moisture. In flow or spongy mosses, a longer time is necessary, and it is desirable to expose the soil to the action of the atmosphere, during the frosts of winter.

4. To plough or delve peat-moss in autumn, that it may be effectually exposed to the winter frost and rains, and not to the summer's heat, which hardens it, and prevents its decomposition.

5. Whatever is done, to do it *effectually*; not to think of laying on four acres, the manure necessary for three, nor the lime, chalk, earth, clay, sand or gravel, upon two acres, that should be employed in covering only one

6. To carry on the improvement of waste lands, without encroaching upon the dung necessary for the improved part of a farm, as dung ought never to be brought from a good soil to lay on a bad one. Unless dung therefore can be procured from a neighbouring town or village, it will be better to leave the lands in their natural state, except in cases where the soil, by being pared, burnt, limed, or marled, or covered with chalk, clay, earth, &c. will pay the expense of the improvement.

7. The last rule is, to lay down land, improved from waste, more especially in high and bleak situations, as soon as possible into grass, and to retain it in that state as long as it is tolerably productive. For though grain and roots may be cultivated on waste lands, when properly improved, yet grass pastured, particularly by sheep, is principally to be depended on for improving all weak soils, in barren districts. In such cases, it is from grass alone that remuneration can be looked for by the improver of waste lands. Even though soils of this description do not produce grass in much abundance, or of good quality, yet when in pasture they produce something, and a stop is put to farther expenditure.

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